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ABSTRACT

The status of Puerto Ricans in U.S. higher education was studied as part of an investigation of four disadvantaged racial/ethnic groups. Attention was directed to: rates of educational access and attainment and factors influencing educational outcomes; trends in choice of majors and careers; representation in various fields; perspectives and employment experience of Puerto Rican faculty members; trends in the characteristics of Puerto Rican freshmen; and institutional and program-related factors affecting the progress of Puerto Ricans. A statistical profile of Puerto Ricans in the United States is presented, along with information on the history of Puerto Rico, schooling in New York, and Puerto Rican students in mainland colleges. Findings of a 9-year Cooperative Institutional Research Program study of 1971 freshmen are presented, along with results of surveys of faculty, Ford Foundation Fellows, and women scientists. Recommendations are offered regarding: data collection and reporting, precollegiate education, implementation of a "value-added" model, financial aid, bilingualism, graduate and professional education, minority faculty and administrators, minority women, and government programs. A 10-page bibliography is appended. (SW)

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PUERTO RICANS IN U.S. HIGHER EDUCATION
CURRENT STATUS AND RECENT PROGRESS

Laura Kent

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Laura Kent

CHAPTER 1

BACKGROUND AND OVERVIEW

This report presents the findings for Puerto Ricans that emerged from a project, funded by the Ford Foundation and conducted by the Higher Education Research Institute (HERI), on the higher education status of disadvantaged racial/ethnic minorities in the United States. During the fall of 1978, when the project was in the planning stage, HERI and the Ford Foundation jointly selected a national commission, structured to include at least one member of each of the four minority groups studied, to serve as advisory board and policy arm for the project. The commissioners were: O. Meredith Wilson (chair), Alexander W. Astin (study director), Frank Bonilla, Cecilia Preciado Burciaga, Yvonne Brathwaite Burke, Albert E. Hastorf, Calvin B. T. Lee, Alfonso A. Ortiz, and Stephen J. Wright.

The commissioners brought to their task a set of shared value premises, believing that these premises are widely held among the four peoples who were the main concern of the project and that the principles they embody are consistent with ideals of social equity that have an enduring appeal for people of all conditions and nationalities. These value premises can be stated as follows:

- Education is a value and a right that is unequally distributed in U.S. society.
- Blacks, Chicanos, Puerto Ricans, and American Indians are major groups with longstanding unmet claims on U.S. education. These claims concern not only the amount of schooling received, but also its quality, scope, and content.

- Redressing inequality in higher education is not only an essential component of any significant effort to guarantee to these groups full participation in U.S. society but also a goal worth pursuing in its own right.
- The attainment of full participation in higher education for these groups may in the short run require that financial and other resources be allocated in a manner governed more by considerations of the magnitude of existing inequality than by considerations of the proportions these groups represent in the total U.S. population.
- U.S. society as a whole has practical and moral interests in the achievement of this goal.

None of these premises, it should be emphasized, assumes that any of the four groups need give up its cultural distinctiveness, languages, or values in the process of gaining full access to higher education and full social and economic participation in American life.

The principal purposes of the project were to examine the recent progress, current status, and future prospects of Blacks, Chicanos, Puerto Ricans, and American Indians in higher education and to formulate recommendations aimed at furthering the educational development of these groups. Although other racial and ethnic minorities can also be viewed as having unmet claims on U.S. higher education, these four groups were chosen for study because of their size, the gravity of their economic and educational disadvantagement, and their original experience of forced incorporation into U.S. society.

The major functions of the commission were to advise the HERI staff on proposed and completed studies, to give guidance in the interpretation of findings and the formulation of recommendations, and to assist with the dissemination of both findings and recommendations to policy-makers, practitioners, and the general public. Subcommittees comprising both commissioners and staff members were formed to deal with specific issues such as governmental programs, the quality of the data used in the project, and minority women. A major outcome of the commission's involvement in the project was the decision to produce, in addition to an overall summary report on the entire project (Astin, 1982) and a briefer document setting forth the recommendations (Final Report of the Commission on the Higher Education of Minorities, 1982), four separate reports on each of the minority groups. It was felt that these "subreports" would provide an opportunity to discuss in greater detail the history and current situation of each group, to present the relevant findings from the study, and to develop recommendations pertaining to each group. The present document, then, focuses on Puerto Ricans in U.S. higher education.

Design of the Study

To provide an empirical basis for policy recommendations, the study concentrated on two main areas: first, a description of the current and recent situation of the four minority groups with respect to their rates of educational access and attainment; and second, an analysis of the factors that influence the access and attainment of these minority groups. These research activities were approached by means of a series of analyses of the empirical data. While considerable use was made of existing data sources, a substantial amount of new data was also collected.

In the course of the study, the commission added a third major area of activity--an analysis of controversial issues relating to the higher education of minorities--which was addressed through a number of essays drawing on the literature and, in some instances, upon relevant data. The overall summary report on this project (Astin, 1982) includes separate chapters on each of these issues: The Myth of Equal Access (Chapter 5), The Myth of the Overeducated American (Chapter 6), Standardized Testing (Chapter 7), and Higher Education and the Meritocracy (Chapter 8).

Data Sources

Data for the statistical profile of Puerto Ricans in the United States (Chapter 2) and on the educational access and attainment of Puerto Ricans (Chapter 6) came from a variety of public and private sources, including the U.S. Bureau of the Census, the Department of Labor, the National Center for Education Statistics, the Commission on Civil Rights, the Office for Civil Rights, the National Science Foundation, the National Academy of Sciences (National Research Council), the College Entrance Examination Board (Educational Testing Service), the American College Testing Program, and the Cooperative Institutional Research Program (CIRP) of the American Council on Education and the University of California, Los Angeles.

The CIRP was also a primary source for the data used to analyze the educational development of Puerto Ricans (Chapter 8). This ongoing research program annually surveys first-time, full-time freshmen at a representative sample of U.S. higher education institutions; subsamples of these freshman cohorts are then followed up at some later point to produce longitudinal information for the purpose of assessing the impact of higher education on students. Two CIRP longitudinal data files were used in this project. The first involved a national sample who entered college as freshmen in the fall of 1975 and were followed up two years later in the fall of 1977. These data were originally collected for a study of the effects of student financial aid on persistence during the first two undergraduate years (Astin, Cross, and Porter, 1979).

The second longitudinal data file involved a national sample who entered college as freshmen in the fall of 1971 and were followed up nine years later, in 1980. The follow-up survey, conducted specifically for this project, required a number of procedures. Because the first mailing of the four-page follow-up questionnaire produced a disappointingly low rate of return--especially for the Puerto Rican sample, many of whose questionnaire forms were returned as nondeliverable--the names of nonrespondents were given to a commercial survey research firm (Chilton Research Services, based in Chicago) with a request that it contact them by telephone and conduct brief interviews which included critical questions about educational progress. As a further means of increasing the response rate, rosters of names of all nonrespondents to the questionnaire were sent out to the institutions which the subjects had entered in 1971. Each institution was asked to provide the following information about each person listed on the roster: highest degree earned, number of years enrolled, and whether or not a transcript had been forwarded to one or more other institutions. The samples of Puerto Ricans resulting from these procedures are described in Chapter 8.

The discussion of trends in the characteristics of Puerto Rican freshmen (Chapter 7) was also based on CIRP data, collected from entering students in 1971, 1975, and 1977.

Data on faculty were collected through a national survey of faculty working in the same institutions attended by the 1971 freshmen and through a survey designed to tap the experiences and perceptions of minority academic personnel. The results of the latter are reported in Chapter 9, which also presents the findings from a survey of recipients of Ford Graduate Fellowships that was carried out in connection with this project. Interview material from a study, funded by the National Science Foundation, of white and minority women pursuing careers in science, mathematics, and engineering is also included in this chapter.

During the course of the project, it was learned that practially no data were available on the flow of Puerto Rican students between the Island and the Mainland. Accordingly, Janice Petrovich, a doctorate-holder in education whose special area is socioeconomic development and higher education in Latin America and the Caribbean, was commissioned to prepare a special report on Puerto Ricans who come from the Island to the Mainland for their college education. Using 1979-80 College Board data on high school students who took the Scholastic Aptitude Test, Dr. Petrovich compared the socioeconomic characteristics, degree aspirations, and other relevant traits of Puerto Ricans from high schools on the Island and those from Mainland high schools. The findings and much of the discussion from Dr. Petrovich's report is included as Chapter 5 of this document.

These data on students and faculty were supplemented by additional data on institutions, including finances, enrollments, physical plant, admissions policies, and other environmental information provided by public and private sources. (For a fuller description of the data sources, see Astin, 1982, Chapter 1 and Appendix A.)

Limitations of the Data

It should be emphasized that conclusions based on the commission's analyses of empirical data must be tempered with the recognition that most of the data sources suffered in varying degrees from technical limitations. One serious problem was that of sample size. Since most of the sources used in the project rely on sample surveys, the absolute number of persons surveyed was so small as to raise serious questions about the reliability of results; this was certainly true for Puerto Ricans. A related problem is that of the representativeness of various samples; again, this problem is especially acute in the case of the smaller minority groups (Puerto Ricans, Chicanos, and American Indians), where sampling errors have more serious consequences than is the case with Blacks. Still another limitation concerns the relatively low response rates from mailed surveys. As was pointed out, in the case of the nine-year follow-up of 1971 freshmen, this problem was severe enough to necessitate a number of additional follow-up procedures. The final problem has to do with racial/ethnic definitions. As is pointed out in Chapter 2, federal and other agencies typically collect and report data for the general category "Hispanic" rather than for Chicanos, Puerto Ricans, Cubans, and other subgroups; in such cases, only rough estimates are possible.

The Limits of Higher Education

Higher education was chosen as the focus of this project because the Ford Foundation and the persons associated with the project believe that it contributes to the social and economic well-being of individuals and to the political resources and strength of groups within U.S. society. Blacks, Chicanos, Puerto Ricans, and American Indians all suffer from powerlessness, and higher education is clearly one of the main routes whereby individuals can attain positions of economic and political power. Further, the quality of life in general can be improved through higher education, which expands employment options and contributes to greater mobility. Finally, higher education can enrich leisure by exposing the individual to a wide range of experiences in the arts, music, literature, history, science, and technology.

But higher education is by no means a panacea for all the problems that confront disadvantaged minorities in the United States. Vestiges of prejudice may persist in the minds of many Americans for years to come, no matter how many minority students complete higher education programs. Perhaps more significant is the fact that many of the educational problems facing these groups occur prior to higher education, at the elementary and secondary levels. Indeed, the results of this study dramatize the need for a much more concerted national effort to upgrade the quality of elementary and secondary education for minorities. Although it is true that higher education can play some role in this process, through the selection and training of administrators and teachers in the lower schools, many of the problems of minority education are probably beyond the control of higher education. This reality does not relieve the higher education system of the responsibility for doing the best job possible with those minority students who manage to enter academic institutions; at the same time, it must be recognized that solving the problems of precollegiate education for minorities will require the sustained efforts of federal, state, and local governments.

Each of the four minority groups occupies a unique situation and faces somewhat special difficulties, because of its particular history. In the case of Puerto Ricans, key factors are the colonial relationship between the United States and Puerto Rico--Puerto Rico's forced dependence on and subservience to the U.S.--and the consequent exploitation of Puerto Ricans as a cheap labor force, an exploitation that is reinforced and rationalized by the racism that pervades U.S. society. More profound changes in the system are needed if more than a handful of minority individuals are to be benefited. The next three chapters are intended to provide the framework for, and to elaborate on, these themes.

CHAPTER 2

STATISTICAL PROFILE OF PUERTO RICANS IN THE UNITED STATES

According to Bureau of the Census figures, Hispanics constituted 5.6 percent of the population of the United States (that is, the 50 states and the District of Columbia) in 1978, numbering over 12 million (Brown, Rosen, Hill, and Olivas, 1980). Of these, about 15 percent were Puerto Ricans, making them the second largest group of Hispanics (after Chicanos) in the country. If we add to this figure the population of Puerto Rico, an estimated 3.2 million, we are talking about some 5 million people. The number is probably even larger, since the Bureau of the Census is thought to undercount Hispanics (U.S. Commission on Civil Rights, 1974). For instance, until 1980, the Census surveys identified as Puerto Rican only those respondents who said that they, or one or both of their parents, were born in Puerto Rico, thus excluding those who were third- or later-generation. In 1980, a self-identification item was substituted. Undercounting may also be attributed to the reluctance of census-takers to poll minority households, and their inability to speak Spanish (Olivas, 1978).

Whatever the actual count, the status of Puerto Ricans as a group is clear. Those who live on the Island are virtually powerless, having no voting representation in the U.S. Congress and receiving only sporadic attention from the federal bureaucracy. Those who live on the Mainland--clustered chiefly in the urban areas of the Northeast, especially New York City--are by all available measures even more severely disadvantaged than non-Hispanic Blacks.

The following statistical profile documents the particulars of that disadvantagement. The data refer to Puerto Ricans living in the United States; the situation on the Island is discussed in subsequent chapters.

Hispanics, with the exception of Cubans, tend to be younger than non-Hispanics, and Puerto Ricans are the youngest of the Hispanic subgroups. According to Census data, in 1978 their median age was 20 years, compared with a median of about 22 years for all Hispanics and a median of 30 years for non-Hispanics (Newman, 1978). Forty-six percent were under age 18; 57 percent were under age 25 (Brown et al., 1980).

Hispanics tend to have larger families than non-Hispanics. In 1978, the average Puerto Rican family numbered 3.8 persons, compared with 4.1 persons in Chicano families and 3.3 persons in non-Hispanic families. Two-person families are much less common among Puerto Ricans (24 percent) than among non-Hispanics (39 percent). Conversely, 12 percent of Puerto Rican families, compared with 9 percent of non-Hispanic families, numbered six or more persons (Brown et al., 1980).

The number of Puerto Ricans living in the continental United States has just about doubled every decade since 1950, making them "the fastest growing component of the 'minority' with the highest growth potential" (Bonilla and Campos, 1981, p. 155). In the five-year period 1973-77, their growth rate was 18 percent, compared with a rate of about 14 percent among all Hispanics and of 3.3 percent among non-Hispanics (Newman, 1978). This increase is more attributable to natural growth (i.e., reproduction) than to migration, as was the case in earlier decades. Since migrants from Puerto Rico tend to be young people in their fertile years, this tendency to natural population growth is reinforced.

In 1946, 95 percent of the Puerto Ricans coming to this country settled in New York City. Today they are widely dispersed: Over 30 cities in the nation--including Philadelphia, Chicago, Cleveland, Bridgeport, and Milwaukee--now have Puerto Rican populations numbering at least 5,000. Of states with large Puerto Rican populations, New York ranks first, followed by New Jersey, Illinois, California, and Pennsylvania (Brown et al., 1980).

Not only do Puerto Ricans tend to be city dwellers, but also they are clustered in the inner city. About four in five Puerto Rican families, compared with 51 percent of all Hispanic families and 26 percent of non-Hispanic families, lived in the central city in 1978. Only 4.8 percent of Puerto Rican families lived in nonmetropolitan areas, compared with 15 percent of all Hispanic families and 35 percent of non-Hispanic families.

Their concentration in cities (especially New York City, which still claims over half) and their relative youth have a direct bearing on the socioeconomic condition of Puerto Ricans, including their labor force participation rate, defined as the proportion of persons in a population (age 16 and over) who are either employed or actively seeking employment. The following chart shows labor force participation rates for 1977:

	Puerto Ricans	All Hispanics	Total Population
Total	48.6	61.5	62.3
Men, 20 years and over	81.9	84.8	79.7
Women, 20 years and over	27.5	45.0	48.1
Both sexes, 16-19 years	30.3	48.2	56.2

Though adult Hispanic women have an overall labor force participation rate that is only three percentage points lower than the rate for all adult women, by specific age group the proportion averages ten percentage points lower than the figure for all women. Newman (1978) says that this "statistical anomaly" can be explained by differences in the age distribution of Hispanic and non-Hispanic women:

> Because Hispanic women are considerably younger than their non-Hispanic counterparts, and young adult women are more likely to be participants than older women, the disproportionate representation of young Hispanic women in the adult population (20 years and over) tends to push up the rate for the entire group. (p. 4)

The same observation holds true for Hispanic men who are age 20 and older: Though their overall labor force participation rate in 1977 was five percentage points higher than that of all adult men, "this too is illusory, caused by the disparate age distribution" (Newman, 1978, p. 4). For most specific age groups, the participation rates of Hispanic men fall one or two percentage points below those for all male workers.

Given that Puerto Ricans are the youngest Hispanic group, the low participation of adult Puerto Rican women in the labor force is startling, the more so since it represents a decline from previous rates, in contrast to an increase in labor force participation among other women (both Hispanic and non-Hispanic) in recent years. Newman (1978) attributes this decline to "the deterioration of the New York City economy in the 1970's" (p. 6). The participation rate of Puerto Rican men was slightly lower than that for all male Hispanics and declined more over the 1973-77 period (by about six percentage points) than did the rate for all men (about two percentage points) or for all Hispanic men (about one percentage point). The decline in the rate for all men can be accounted for by a trend toward earlier retirement and by the increasing tendency of wives to work outside the home, but neither factor explains the decrease among Puerto Rican men, who are young and whose wives are less inclined than average to hold outside jobs.

Most striking are differences in the labor force participation rates of teenagers (16-19-year-olds). Only 30 percent of the Puerto Ricans in this age group, compared with 52 percent of all teenagers and 48 percent of all Hispanic teenagers, were in the labor force in 1977.

The following chart shows the proportions from each population group who were actually employed in 1977:

	Puerto Ricans	All Hispanics	Total Population
Total	42.0	55.3	57.9
Men, 20 years and over	72.1	78.3	75.0
Women, 20 years and over	25.9	40.5	44.8
Both sexes, 16-19 years	21.3	37.2	46.2

The employment rate for Puerto Rican men was six percentage points lower than that for all Hispanic men and four percentage points lower than that for the total male population age 20 and over. Only about one in four adult Puerto Rican women worked during 1977, compared with two in five of all adult Hispanic women and 45 percent of all adult women. But it is again among teenagers that the greatest differences are found: The employment rate for Puerto Rican teenagers was less than half that for all teenagers in the population and lagged sixteen percentage points behind that for all Hispanic teenagers. Newman (1978) again attributes this low figure to the New York City economy, "where only 22 percent of all teenagers were working in 1977" (p. 9). Whatever the explanation, the situation is grim, especially in view of the high secondary school dropout rates among Puerto Rican teenagers (see Chapter 6).

The following chart shows annual average unemployment rates, and the median duration of unemployment (in weeks) for the various groups in 1977:

	Puerto Ricans	All Hispanics	Total Population
Total	13.6	10.1	7.0
(Median number of weeks)	(10.0)	(6.2)	(7.0)
Men, 20 years and over	12.0	7.7	5.2
(Median number of weeks)	(16.4)	(8.8)	(9.4)
Women, 20 years and over	11.9	9.9	7.0
(Median number of weeks)	(5.3)	(5.6)	(6.9)
Both sexes, 16-19 years	29.7	22.8	17.7
(Median number of weeks)	(5.1)	(4.3)	(4.7)

Overall, Puerto Ricans in the labor force were twice as likely as all workers, and about a third again as likely as all Hispanic workers, to be unemployed. The difference was greater for men than for women. Moreover, Puerto Ricans suffered longer periods of unemployment than others, the high being a median of 16.4 weeks for adult men; this means that over half had been actively looking for jobs, but had not worked at all, for periods of about four months or more. The severe effects of such long-lasting joblessness among men are no doubt exacerbated by the low employment rates of Puerto Rican women.

Among 16-19-year-olds in the labor force, 30 percent of Puerto Ricans, compared with 18 percent of the total population, were unemployed. According to the New York Times, in 1977 Puerto Rican teenagers had a higher unemployment rate than any other ethnic group, including Blacks, in the city (Vidal, 1980).

And these, of course, are only the official unemployment statistics, based on stringent and unrealistic criteria: e.g., anyone who has worked at all during the previous week is not counted as unemployed; anyone who was not looking for work is regarded as "economically inactive" and thus is not counted among the unemployed. These figures ignore those people who have become so discouraged that they have simply stopped looking for a job. Thus, there is a great deal of "hidden" unemployment, in addition to the obvious "official" unemployment, among Puerto Ricans.

As Table 1 indicates, employed Puerto Ricans tend to work in low-status, low-paying occupations. In 1977, close to half (compared with only one-third of all employed persons) had blue-collar jobs; of this group, only one-fourth (compared with 40 percent of all blue-collar workers) were employed in craft and kindred occupations, and the remainder worked in lower-level jobs (operatives, laborers). Conversely, fewer than one in three Puerto Ricans (compared with half of all employed persons) worked in a white-collar occupation; moreover, Puerto Ricans were twice as likely to hold low-level (sales and clerical) as high-level (professional, technical, managerial) positions. Puerto Ricans were also more likely than others to work in service occupations but less likely to be farmworkers.

Among Puerto Ricans, larger proportions of men than of women were managers and administrators, craft and kindred workers, farm and nonfarm laborers, and service workers; whereas larger proportions of women than men worked in professional and technical, sales and clerical, and operative jobs. These sex differences are similar to those found in the general population, except that, among all employed persons, men are more likely than women to be operatives and less likely to be service workers.

In recent years, those jobs in which Puerto Ricans are most heavily concentrated--namely, factory operative jobs--are the ones that have been disappearing most rapidly, or at least becoming increasingly inaccessible to city dwellers. Rodríguez (1979) describes the concatenation of circumstances that have worked to keep the socioeconomic position of New York City's Puerto Rican population low:

> Automation and the movement of surviving blue-collar jobs to the suburbs, the South, and to other countries have caused a sectoral decline in the number of manufacturing jobs available in New York City. Since these trends occurred more rapidly than out-migration or the retraining of blue-collar workers to fill white-collar jobs,

Table 1

Occupational Distribution of Puerto Rican, Hispanic, and All Employed Persons Age 16 and Over, by Sex, 1977

(percentages)

Occupational Category	Total			Men			Women		
	Puerto Rican	Hispanic	All	Puerto Rican	Hispanic	All	Puerto Rican	Hispanic	All
White-collar	32.0	31.7	49.9	23.5	23.7	40.8	48.3	45.5	63.3
Professional and technical	7.4	7.4	15.1	6.9	7.3	14.6	7.6	7.7	15.9
Managerial and administrative	4.1	5.6	10.7	4.5	7.1	13.9	2.8	3.1	5.9
Sales	4.6	3.7	6.3	4.5	3.2	6.0	5.5	4.7	6.8
Clerical	15.9	15.0	17.8	7.6	6.1	6.3	32.4	30.0	34.7
Blue-collar	48.1	46.6	33.3	54.6	57.5	46.1	34.5	28.3	14.6
Craft and kindred	11.5	13.7	13.1	16.6	20.6	20.9	1.4	1.9	1.6
Operative (nonfarm)	26.0	20.9	11.4	23.2	18.7	11.6	31.7	24.7	11.2
Transport equipment	3.9	4.1	3.8	5.5	6.3	6.0	--	.4	.6
Laborer (nonfarm)	6.7	7.9	5.0	9.3	11.9	7.6	1.4	1.3	1.2
Service	18.4	17.1	13.7	19.7	13.3	8.8	16.6	23.6	20.1
Farm	1.6	4.4	3.0	2.1	5.5	4.2	.7	2.6	1.3

Source: Adapted from Newman, 1978, Table 3, p. 10.

> a severe problem in blue-collar structural unemployment arose. Because of racial and ethnic prejudice, restrictive union policies, inadequate educational opportunities, and the restriction of Puerto Ricans from government employment, Puerto Ricans bore the brunt of this blue-collar structural unemployment. (pp. 206-07)

Thus, even though there has been some structural movement in recent years--with younger men taking service jobs, older men taking unskilled labor jobs, and younger women taking clerical jobs--very little occupational upgrading has occurred among Puerto Ricans. Newman (1978) summarizes the employment-related statistics as follows:

> Puerto Ricans had an unemployment situation in 1977 that was considerably worse than that of any of the other Hispanic ethnic groups. Puerto Rican workers suffered from higher rates of unemployment, and the adult men had much longer durations of unemployment, than Cubans or Mexicans. Puerto Ricans also had lower labor force participation, regardless of age or sex, than other Hispanics. Further, of those who were employed, a larger proportion of Puerto Ricans worked in low-paying occupations. Some 62 percent of the working Puerto Ricans had jobs as service, farm, or clerical workers, or as operatives except transport, in 1977, the lowest paid occupational groups. (p. 10)

Given these facts, it comes as no surprise that 1977 Census figures show the median income of Puerto Rican families to be lower than that of any other group: $7,972, which is only half the median income for all U.S. families ($16,009), as well as being considerably lower than that of Blacks ($9,563) or Chicanos ($12,000). Close to two in five Puerto Rican families had incomes below the poverty level in 1977, compared with 9 percent of all U.S. families, 28 percent of Black families, and 19 percent of Chicano families. What is even more startling, a larger proportion of Puerto Ricans were below the poverty level in 1977 than in 1969 (28 percent), counter to the trend for virtually all other racial/ethnic groups on whom statistics are available. In other words, whereas most minority groups (as well as Whites) had improved their economic position over the eight-year period, Puerto Ricans had experienced a decline. The increasing economic disadvantagement is confirmed by figures showing that, between 1959 and 1979, the family income of Puerto Ricans dropped from 71 percent to 47 percent of the national average (National Puerto Rican Forum, cited by Auletta, 1981, p. 118). Bonilla and Campos (1981), citing 1976 figures, say that about one in three Puerto Rican households had no income from wages, salary, or self-employment and that, of the mean total household income of $8,745, about one-fifth came from transfer payments of various kinds, including food stamps, unemployment compensation, and aid-to-dependent children funds: "Were we to disregard such transfer payments in the poverty calculations . . . the economic conditions of Puerto Ricans would look even more depressed" (p. 160).

These statistics help to confirm what a wealth of anecdotal material suggests: With respect to economic and social status, Puerto Ricans are close to the bottom of the ladder in American life. Although some observers (e.g., Sowell, 1981) attribute their low status to their relative youth and lack of education, the evidence indicates that, regardless of educational attainment, work experience, and other relevant characteristics, Puerto Ricans earn less than other workers (see Bonilla and Campos, 1981, p. 161). To understand better the current position of Puerto Ricans in the United States, one must look at the history of Puerto Rico, which has been under the continuous domination of an outside power--first Spain, then the United States--over the last five centuries. The next chapter presents such a perspective.

CHAPTER 3

HISTORICAL PERSPECTIVE ON PUERTO RICO

The first inhabitants of Puerto Rico were seminomadics who came on log rafts, settling first in Cuba and them moving on to other islands in the Greater and Lesser Antilles. They were hunters and gatherers, organized into clan communities and depending on "spontaneous forms of human cooperation" and "an eqalitarian natural division of labor based on sex and age" for survival (Moscoso, 1980, p.6). They were succeeded by the Igneris, a subgroup of Arawaks from South America, whose contributions include the language that was in use on the island when the Spaniards arrived.

The Tainos, who were probably descendants of the Igneris rather than a third wave of migrants, introduced more sophisticated methods of cultivation as well as a more complex social system whereby clans became tribes and chiefdoms. A social class system developed, comprised of *caciques* (chiefs or kings), *nitainos* (overseers or "clanlords"), and *naborías* (laborers), who were regarded as "servants to the gods" (as personified by the elite), to whom they were required to pay tribute in the form of labor, foodstuffs, and handcrafted articles. Moscoso (1980) uses the term *"tribal-tributary"* mode of production to characterize the social base of the Taino chiefdoms. The Taino tribes on Puerto Rico formed a loose confederation, although they occasionally warred against each other over such issues as fishing rights.

Spanish Domination

November 19, 1493, marks the European discovery of the Island. Columbus, on his second voyage to the New World, stayed just long enough to take on provisions, make some observations, and rename Boriquen San Juan Bautista. (The natural harbor was named Puerto Rico in 1510; in 1521, the Island itself was renamed Puerto Rico, and the capital city that had by that time developed became San Juan.)

Juan Ponce de León, appointed governor of Puerto Rico by the Spanish Crown in 1508, founded the first settlement and established the encomienda system, about which Moscoso (1980) comments as follows:

> As in the rest of the Antilles the chiefdoms of Puerto Rico proved to be an invaluable weapon for colonization purposes. The colonizers used the authority of the chiefs to command the labor of the naborías; the clanlords, which were also called "captains" by the colonizers, were used in their capacity of supervisors of the indigenous laborers. Thus, tribal-tributary class relations provided a foundation for the establishment of the colonial encomienda in Puerto Rico. (p. 19)

In 1511, the Taino chiefs, who initially welcomed the Spaniards, mounted a belated rebellion which led to the wholesale slaughter of the indigenous population. Those who were not killed off fled to the interior. A census taken in 1530 counted only 1,148 Indians.

When the gold ran out, many Spanish settlers left for the richer pickings of Mexico and Peru. The remainder turned to agriculture, especially the cultivation of sugar, and cattle ranching. Indians from the Mainland and Blacks from Africa were brought in as slave labor.

During the next two centuries, the Island's inhabitants were beset by smallpox, hurricanes, and attacks from English, French, and Dutch pirates. The defeat of the Spanish armada at the hands of the English in 1584 signaled the beginning of Spain's decline as a world power, and Puerto Rico took on a new significance because of its strategic location. Tight military control was exercised over the Island, trade was allowed only with the metropolis, and immigration from other nations was forbidden. Puerto Rico grew very slowly and, "by the middle of the eighteenth century Puerto Rico was still poor, backward, sparsely populated and unable to generate the revenues necessary to pay for its administration and defense" (López, 1980, p. 39).

The nineteenth century saw the growth of a new nationalism and a uniquely Puerto Rican consciousness. In Spain, a constitutional monarchy briefly held sway. Puerto Rico, along with Spain's other colonies, sent representatives to the Spanish Cortes; and liberal reforms were introduced to the Island. Even though they were of little benefit to the black slaves or to the *jornaleros* (free agricultural workers) or *jíbaros* (mountain peasants), these reforms "whetted the appetite of the Puerto Rican creole elite" (López, 1980, p. 59)--composed of property owners, merchants, and professionals--who had come to resent the absolute power of the military-ecclesiastical authorities and to chafe under the Spaniards' assumption of superiority.

The most drastic expression of the new nationalist spirit was *El Grito de Lares*, an abortive rebellion led by Ramón Betances, a European-educated doctor who had earlier been exiled for his separatist activities. From St. Thomas, Betances issued what amounted to a political bill of rights,

> The Ten Commandments of free men: abolition of slavery; the right to vote on all taxation; freedom of worship; freedom of speech; freedom of the press; free commerce; the right to congregate; the right to own arms; the citizen's inviolability; and the right to elect authority. (Williams, 1972, pp. 102-103).

Although the rebellion was betrayed before it even started, a force of about 1,000 men captured the town of Lares on September 29, 1868, and declared Puerto Rico a republic. Betances' movement failed to win the support of other Autonomist leaders of the peasantry, who wanted land reform and were not interested in political slogans. Nonetheless, the Lares revolt served a symbolic function, becoming "a point of reference for all subsequent liberation fighters" (López, 1980, p. 81).

The next thirty years witnessed the rapid deterioration of Spain as an empire, with the government seesawing back and forth between an absolute and a constitutional monarchy, and a concomitant liberalization of law in Puerto Rico. In 1815, the Cédula de Gracias had opened Puerto Rico to immigrants from other Catholic countries. Trade with other nations was expanded. In 1873, slavery was abolished. Some advances had been made in the educational system during the nineteenth century, with secondary and professional schools opened to children of the middle class:

> After about 1850, state-built schools were opened to some poor children without payment of fees. So eager were the parents of these children that they swamped the schools. The result was not the expansion of schools but the control of attendance of poor children. . . .
>
> These schools were financed by tuition and funds from island authorities. Extremely few children from the countryside ever saw the inside of any school through the nineteenth century. (Weinberg, 1977, p. 231)

Political parties developed around the question of the future status of Puerto Rico. On the other hand, the Conservatives--made up primarily of "the powerful, principally Spanish, class of merchants, clergy, and government bureaucrats" (Williams, 1972, p. 105)--favored maintenance of the status quo. On the liberal side, the Autonomists sought change but were divided on the issue of whether Puerto Rico should become an independent republic or should preserve its ties with Spain but demand equal representation. The Cuban revolution broke out in 1895, sending many liberals into the Separatist camp. Strongly opposed to the idea of revolution and committed to nonviolent means, Luis Muñoz Rivera, a newspaper editor and a member of the Autonomist Party, travelled to Spain where he won from Práxedes Mateo Sagasta, leader of the Liberal Monarchist Party, a promise that Puerto Rico would be given autonomy. In 1897, Sagasta became prime minister and, as he had promised, granted a charter of autonomy that

> provided for genuine self-government. . . After four hundred years, Puerto Rico was recognized as a separate and self-governing entity with its rights established by a royal decree which plainly stated: "After its approval by the Cortes of the Kingdom, the present Constitution of the Islands of Cuba and Puerto Rico cannot be modified except by virtue of law and by petition of the Island Parliament." (Williams, 1972, p. 107)

The charter went into effect the following year, and in March of 1898, the Puerto Rican people elected members to the new Insular Assembly.

The First Four Decades of U.S. Domination

Puerto Rico's autonomous status, was however, short-lived. Ironically it was the United States--which had been manifesting expansionist ambitions throughout the last part of the nineteenth century--that was responsible for the end of Puerto Rico as an independent nation. According to Hauberg (1974), the

Cuban war of independence

> was a godsend to the yellow press in the United States. William R. Hearst and Joseph Pulitzer were rivals whose papers burst out in "typographical paroxysms" when "outrageous" incidents were reported concerning concentration camps and Spanish brutality. As a result, the general public became so aroused with righteous humanitarianism that it is doubtful if President McKinley could have prevented the war even when Spain accepted all of his ultimatums except that of assuming blame for the sinking of the battleship Maine. (p. 36)

The Spanish-American war was fought mostly in Cuba and the Philippines, although San Juan was shelled in May, and U.S. troops invaded Puerto Rico in July. The Puerto Rican people felt little alarm over this course of events: "They had just wrung a recognition of their island's rights from the Spanish monarchy, after all, and they expected even more freedom from association with the United States, whose government and spokesmen proclaimed it the most liberal in the world" (Williams, 1972, p.116). With the ratification of the Treaty of Paris in April of 1899, "the Island of Puerto Rico, with nearly one million inhabitants, was ceded to the United States, given away like a box of cigars or a piece of furniture" (Villafuerte, 1967, p. 25).

At the end of the nineteenth century, the economy of Puerto Rico revolved around three commercial crops--coffee, sugar, and tobacco--with a declining percentage of acreage being devoted to subsistence farming. In the rural areas--where 85 percent of the Island population of 950,000 lived--a few wealthy landowners maintained a paternalistic stance toward the agregados attached to the big plantations. Virtually the only industries permitted by Spain involved the making of cigars and the distilling of rum. The Island had to import foodstuffs and manufactured goods. Thus, "by the time the U.S. army moved into the island in 1898, the Puerto Rican economy had already taken the classical mold of dependent colonial economy" (López, 1980, p. 65).

The Foraker Act of 1900 made Puerto Rico an "incorporated" territory (with the implication that it would one day move on to statehood) and replaced the military government with a civil administration controlled from the Mainland. The governor and an eleven-member Executive Council (constituting the upper house of the legislature) were appointed by the U.S. president, subject to Congressional approval. A lower House of Delegates, whose thirty-five members were to be elected every two years by adult male Puerto Ricans, could pass laws, but the governor had veto power. Though his veto could be overridden by a two-thirds majority vote in both houses, the U.S. Congress had the final say and could, moreover, annul any Puerto Rican law that did not meet its approval. The Circuit Court of Boston had jurisdiction in legal matters. In a series of cases, the U.S. Supreme Court handed down decisions that denied Puerto Ricans various rights (e.g., to indictment by grand jury, to trial by jury): "A distinction was drawn between the basic guarantees of the Constitution and the non-fundamental guarantees of Congress. . . . In short, after 1900, Puerto Rico was just what Congress proceeded to make it--a colony" (Hauberg, 1974, p. 39).

Although the issue of Puerto Rico's status divided the Island's political leaders--with some favoring statehood, others demanding greater autonomy, and still others wanting complete independence--they were agreed in their dissatisfaction with the Foraker Act. Nonetheless, no formal change was made until the Jones-Shaforth Act of March 1917, which--among other things--bestowed U.S. citizenship on the Puerto Rican people, "a rather dubious honor," according to Alfredo López (1973), that gave them the right to be drafted into military service (just in time to serve in World War I), "to come to the United States without going through immigration legal red tape, and the right to vote in elections, once [they] got here" (p. 51). The Jones Act also established a nineteen-member elected senate but retained the Executive Council to act as a cabinet and gave the U.S. president veto power over any law passed by the insular legislature. In short, it effectively extended the power of the metropolis over the colony. In 1934, responsibility for the management of Puerto Rican affairs passed from the Bureau of Insular Affairs of the War Department to the Department of the Interior.

Objections to the treatment accorded to Puerto Rico by the United States came from many quarters. The low caliber of the civil governors appointed by the president was a particular source of grivance, since most of them knew little about Puerto Rican affairs and were not fluent in Spanish. Christopulos (1980) summarizes the attitude of U.S. officialdom:

> American politicians proved to be paternalistic racists, proudly ignorant of the island's political history and naively sure of their own civilization. Uninterested in any Puerto Rican responses except gratitude and subservience, the U.S. government displayed a classical imperialist attitude toward the island. It usually ignored Puerto Rican demands but insisted on controlling everything on the island. Representative forms of government existed, but they were emptied of political content. American officials used the democratic facade to indict Puerto Ricans for their own political and economic failures. Whatever their problems, islanders were supposed to be grateful for American rule, as presidents Taft and Coolidge pointed out when Puerto Ricans talked too loudly about substantive democracy. (p. 141)

Nowhere did this arrogant paternalism manifest itself more clearly than in the Island's educational system. When U.S. troops first occupied Puerto Rico in 1898, 82 percent of the population were illiterate, and only one in twelve school-age children actually attended school, with the proportions being much lower in the rural districts than in the urban areas. The United States did little to improve the situation: "Education in Puerto Rico followed the prevailing world colonial pattern. Typically, the colonizing government exercised a positive disinterest in educating the native people" (Weinberg, 1977, p. 232). Congress declined to appropriate any funds for the educational system--even though an advisor, General George W. Davis, pointed out that since the Island had few resources, U.S. funds would be required if it was to create an adequate school system--nor did the United States contribute any lands on which to build schools, "the traditional American means of encouraging popular education" (Weinberg, 1977, p. 232). Consequently, the insular government had to devote a considerable share of its total operating revenues (40 percent in 1928) to education. In 1927-28, over four-fifths of education revenues were provided by the insular government, and the remainder came from municipal governments, through the levy of a property tax that worked a hardship on the poor by raising the cost of living. "Schools suffered financially as a result of the outright refusal of some large American corporations to pay the assessed taxes" (Weinberg, 1977, p. 234).

Even though the educational system received no federal funds, a succession of presidentially appointed Commissioners of Education insisted on the Americanization of the schoolchildren:

> Puerto Rican children early began to learn about the United States; their social studies dealt with life in the United States rather than with the Puerto Rican life to which they must adjust themselves; most of the history taught them was the history of the United States; their books were written in English and designed for continental students rather than for Puerto Ricans.

> Worse yet, it was decreed early that all the teaching in all the grades had to be done in the English language. That was supposed to be a good way to teach English to the Spanish-speaking Puerto Ricans, and to make them truly bilingual. It didn't work. (Hanson, 1955, p.53)

From the first, the language issue was politically loaded. In 1907, "about four-fifths of all classes were reportedly conducted in English; in the remaining fifth, English was studied as a second subject" (Weinberg, 1977, p. 235). A measure requiring that Spanish be the medium of instruction was blocked in the House of Delegates in 1913 and 1915. In San Juan, high school students circulated a petition favoring the measure; the student leader was expelled from school, an incident that touched off an islandwide strike. With the appointment of José Padin as Commissioner of Education in 1930, the official position changed: Teaching was to be done in Spanish through the first eight grades, with English studied as a second language; in high school, the medium of instruction was to be English. Governor Gore criticized Padin on the grounds that "the schools of Puerto Rico were not pro-American, English was taught with 'left-handed gestures,' and the minds of the students were instilled with the ultimate idea of independence" (Hauberg, 1974, p. 59).

Padin won this particular battle: Gore was asked to resign. But the Nationalist Party's anti-American activities in the mid-1930s evoked a wave of reaction on the part of the United States. José Gallardo, appointed Commissioner of Education in 1937, initiated a new Americanization policy. Officially, English was again installed as the language of instruction. In fact, Spanish continued to be used in the lower grades, whereupon teachers were imported from the Mainland. Since few of them were fluent in Spanish, the result was utter chaos. When Gallardo's tenure expired in 1945, Puerto Rican spokesmen asked for a more qualified Commissioner of Education. But the U.S. Senate "demanded a written guarantee of loyalty as expressed through the promise of a militant policy on stressing the English language" (Hanson, 1955, p.57). This situation prevailed until Muñoz Marín, the first governor to be elected by the Puerto Rican people, appointed Dr. Mariano Villaronga to the position of Commissioner of Education, and Spanish was again declared the language of instruction in all public schools, through high school. Perhaps the most reasonable observations to be made on the language issue are that it has distracted attention from other important educational matters--most notably, the poor quality of the education given to Puerto Rican children--and that, all too often, decisions have been based on motivations far removed from what should be overriding consideration: the educational development of the child.

Enrollments in the Puerto Rican school system grew steadily. In 1910, slightly more than one-fourth of the total school-age population were enrolled in public schools; by 1940, the proportion had increased to slightly over half. The increase in absolute numbers was over 900 percent. Achievement tests in 1925 showed Puerto Rican children in the first four elementary grades scoring close to the norms for Mainland children in language and surpassing them in arithmetic computation and reasoning; in grades 7, 8, and 9, Puerto Rican pupils fell behind the U.S. norms (Weinberg, 1977, p. 237). Nonetheless, conditions in the rural areas remained poor.

Under U.S. occupation, the Puerto Rican economy underwent drastic changes. Because it was not protected by the U.S. tariff mantle, coffee dropped sharply in importance as a cash crop, with coffee production decreasing from 52.7 million pounds to 25.8 million pounds between 1910 and 1935. Tobacco, too, dwindled in importance. Sugar became the dominant crop, with production growing from 3.2 million tons to 8.3 million tons in the 1910-1935 period. By the 1930s, four North American companies controlled most of the sugar crop. At the same time,

> thousands of small proprieters were forced to sell their land, entering a rural proletariat along with peasants who had relied on ready access to land without enjoying legal ownership. Lands dedicated to subsistence were reduced and the economic position of the jornalero was fully transformed into that of the agricultural wage laborer. Even farmers with small and medium holdings soon fell under the sway of the large foreign-owned corporations. (History Task Force, 1979, pp. 97-98)

These changes--dictated by the interests of capitalists on the Mainland rather than the needs or wishes of the Puerto Rican people--resulted in the mass and continuous movement of these people--first on the Island itself, as those who had worked in the coffee-growing mountain regions moved to the costal regions and the urban centers, then "through increasingly extended circuits within the U.S. labor market" (Bonilla and Campos, 1981, p. 134). Emigration, blamed on the "overpopulation" of the Island, was encouraged by U.S. officials. Williams (1972) comments as follows:

> The great industrial and agricultural development of the United States has always required a large supply of cheap labor. It did not take long for Anglo-American developers to make the Puerto Rican population a part of the labor pool of the United States. In 1900 and 1901 more than six thousand Puerto Rican sugar-cane workers were contracted to work in the sugar fields of Hawaii--another newly acquired United States island possession (1898). The Puerto Ricans were shipped by boat to New York, then by train to San Francisco, and again by boat to Hawaii. (Williams, 1972, p. 210)

Some Puerto Ricans, upon arriving in San Francisco, decided to stay there; and until 1950, the San Francisco area was the second largest population center for Puerto Ricans in the United States (Hauberg, 1974, p. 111). Of those who went on to Hawaii, some died in transit, and others arrived in weakened condition (Bonilla and Jordan, 1979).

To some extent, migration was seasonal: Workers would travel to other Caribbean islands for the sugar harvest and would then return to Puerto Rico. During World War I, Puerto Ricans were transported to the southern United States to work in army camps and war industries; again, harsh conditions took a toll in death and illness (Bonilla and Jordan, 1979).

Movement to and from the Island was dictated to a large degree by conditions in the metropolis and, indeed, throughout the world. Between 1909 and 1911, Puerto Rico experienced a net gain, as it did again in the early years of the depression. The periods of heavy out-migration occurred at the end of World War I, throughout the 1920s, and at the end of the 1930s. During this last period, when economic conditions were at their worst on the Island and unemployment rose to 37 percent, "an unusually large number of professionals and semiprofessionals migrated" (Weinberg, 1977, pp. 241-42). For the most part, however, migrants to the U.S. were of working-class origins. The first study of Puerto Ricans in this country, William Hill's *Porto Rican Colonies in New York*, appeared in 1929. Lawrence Chenault's *Puerto Rican Migrant in New York City*, another major study, appeared in 1938. These documents evidence a growing awareness of the Puerto Rican presence in this country.

Meanwhile, during the 1920s and the 1930s, many Puerto Rican political leaders were continuing to press for independence. With the rise of the Nationalist Party under the leadership of Pedro Albizu Campos in the [redacted]s, anti-American feeling became overt. Students at the University of Puerto Rico staged a strike when university officials refused to let Albizu Campos speak on campus, and five people died in a clash between protesters and police. In 1936, two young Nationalists killed E. Francis Riggs, Anglo-American chief of the Insular Police; they were arrested, taken to police headquarters, and beaten to death. U.S. outrage over the Riggs assassination led to the arrest, trial, and conviction of Albizu Campos. On March 21, 1937, during a Nationalist parade in Ponce, "a shot rang out, and a police officer fell, wounded. The police then began firing wildly into the unarmed crowd. Nineteen were killed, . . .and more than 100 were injured" (Hunter, 1966, p. 96). The incident is referred to as the Ponce Massacre. Later in 1937, Nationalists attempted to kill the judge who had sentenced Albizu Campos; and in 1938, an attempt was made on the life of Governor Blanton Winship.

Another outcome of the Riggs assassination was the introduction of a bill, in April 1936, to grant immediate independence to Puerto Rico; the intention of Senator Millard Tydings of Maryland, author of the legislation, was to punish the Island for the death of his friend. Although some Puerto Rican political leaders welcomed the offer, Luis Muñoz Marín (son of Muñoz Rivera, who had been instrumental in winning autonomy from Spain for the Island) rejected it, thereby joining "the distinct minority of insular politicians who treated political status as something more than an easily-changed slogan. He understood that independence was a real possibility and that the highly dependent insular economy would be dangerously strained by a sudden American withdrawal" (Christopulos, 1980, p. 147). Under pressure from North American business interests, the Tydings Bill was effectively stifled in committee.

Operation Bootstrap and the Commonwealth

Further massive changes, both political and economic, were in store for Puerto Rico in the 1940s and 1950s. The Partido Popular Democratico (PPD, or Popular Democratic Party), founded and headed by Muñoz Marín, won a plurality in the legislature in 1940, with strong rural support. At about the same time, Franklin Roosevelt appointed New Dealer Rexford Tugwell as governor, the last non-Puerto Rican to hold that office. During the first few years, some reform measures designed to improve the lot of the rural population, such as the Land Act of 1941, were initiated, but soon such efforts dwindled, without having accomplished much. Both Muñoz Marín and Tugwell were "interested in working with private enterprise rather than dismantling it" (Christopulos, 1980, p. 151), and both believed that little could be done to diversify and develop agriculture; industrialization was, they concluded, the answer.

Thus was born Operation Bootstrap, characterized by Bonilla and Campos as the fullest embodiment of United States policy toward Puerto Rico: the exchange of people for capitals.

> The steady explusion of "surplus" workers and efforts to attract greater amounts of capital together have governed all the plans and projects formulated by and for Puerto Ricans to solve the persisting problem of "overpopulation" and to promote an economic development that remains elusive.
>
> (Bonilla and Campos, 1981, p. 133)

The idea was to attract Mainland investors to Puerto Rico by "offering them a cheap labor supply, well-controlled labor unions and liberal tax incentives" (Christopolus, 1980, p. 152), including (under the Industrial Incentives Act of 1947) exemption from insular taxes for a period of ten years (later extended to

17 years) and (under the much-earlier Jones-Shaforth Act) exemption from federal taxes.

The plan unfolded in several stages. From 1942 to 1947, government-supported businesses and light industries were developed. From 1947 to 1950, the federal overseeing agencies were brought under the umbrella of the Economic Development Administration. From 1950 to 1960, the private sector took over the businesses and light industries from the government. Finally, from 1960 onward, the giants of the corporate world (Bell Telephone, Standard Oil, Alcoa, Dupont, the banking interests, and so forth) moved into Puerto Rico. "Between the years of 1950 and 1965, the island underwent the most profound economic change in modern history. It was completely . . . industrialized in fifteen years" (López, 1973, p. 67).

Simulataneous with industrial development, Puerto Rico's political status was changing. A committee appointed by President Roosevelt in 1943 to revise the Foraker Act recommended that Puerto Ricans be allowed to elect their own governor. The Crawford-Butler Act of 1947 provided for free elections, and in 1948 Muñoz Marín was elected governor, an office he held until 1964.

According to Public Law 600, signed in 1950, Puerto Rico was permitted to write its own constitution. That document was drafted by a Constituent Assembly, but the U.S. Congress insisted on deleting a section in the Bill of Rights that called for, among other things, recognition of every person's right to a free elementary and secondary education, employment, and "to a standard of living adequate for the health and well-being of himself and his family, especially to food, clothing, housing, and medical care and necessary social services" (quoted by Williams, 1972, p. 173).

The revised Constitution went into effect on July 25, 1952, and Puerto

Rico achieved Commonwealth status, which--according to Carey Williams (1979)--"helped to create an anomolous relationship: it provided a somewhat larger area of local autonomy but did not change the basic colonial dependency" (p. 422). Although McDougall (1980) asserts that Puerto Ricans have exercised a "substantial degree of self-government" (p. 21) since that time, other observers believe that "real political power" still lies in the hands of Washington-based officials, while "the island legislature's powers are limited to traffic regulations and the like" (Myerson, 1972, p. 68). According to Clerc (1980), Puerto Rico is still "dependent on federal decisions in foreign policy, export regulations, customs, currency, the media, emigration, and the judical system" (p. 32).

What is indisputable is that the Commonwealth tie has, in the words of Christopulos (1980),

> a self-fulfilling character, since Operation Bootstrap made Puerto Rico increasingly dependent on the United States. . . .The PPD development strategy effectively closed off alternative solutions to the problems of low wages and high unemployment. Political subordination to the United States prevented the island from changing its external trade policies to allow the importation of cheaper goods or the protection of local industries. (pp. 157-58)

According to some points of view, both Operation Bootstrap and the Commonwealth have been successful. For instance, an article in Fortune magazine asserts that Muñoz Marín "took charge of what was then a Caribbean poorhouse and turned it into one of the postwar era's most hopeful laboratories of industrial and political development" (Nickel, 1979, p. 163). American corporations were indeed attracted to the Island, and some material improvements were effected: e.g., road and sewage systems were built, some low-cost housing was constructed, the education system was expanded, and the standard of living improved, at least for some of the population. Nonetheless, the chief beneficiaries of Operation Bootstrap were the North American investors and those

Puerto Ricans who had allied themselves with U.S. business interests Unemployment remained high, since the number of jobs created by new industry (particularly in the later stages when the industries that moved to the Island tended to be capital-intensive rather than labor-intensive) were hardly sufficient to keep pace with natural population growth. Wages were low--at least until "U.S. unions and other business interests, concerned about 'unfair competition' in Puerto Rico,. . . pressured for higher minimum wage scales" (History Task Force, 1979, p. 27)--but the cost of living was just as high as on the Mainland.

The most immediate consequence of this intensive industrialization, however, was the forced exile of large numbers of Puerto Ricans. Unemployed (and usually unskilled) agricultural workers flocked to the urban centers to find work. Failing that, they left Puerto Rico for the Mainland to fill the low-paying, dead-end service and factory operative jobs that others would not take. Their migration was made relatively easy by their U.S. citizenship and by the cheap air fares offered by the airlines at the behest of the Puerto Rican government.

Following World War II, out-migration soared. Although estimation is difficult because accurate records were not kept, Vazquez Calzada (1979) sets the migration figure from Puerto Rico to the United States at 150,000 during the 1940s. It rose during the 1950s to 430,000, the peak year being 1953, when net migration totaled 69,124. During the 1960s, net migration was about 107,000; in some years, more Puerto Ricans returned to the Island from the Mainland than moved in the other direction (see López, 1980, p. 316, Table 2). Sources agree that, overall, nearly one-third of the Island's population has been involved in migration to the U.S.

The official explanation for this mass movement of peoples runs as follows: Owing to improvements in sanitation and health care since the American occupation of Puerto Rico, the birth rate has risen and the death rate dropped. Since arable land is limited, a problem of overpopulation has developed. The only civilized solution is either to limit births (not feasible in view of the Catholic background of the Island's inhabitants) or to encourage migration. Writing in 1950, Mills, Senior, and Goldsen conclude: "A Puerto Rican of the present generation, therefore, finds himself caught in a situation which strongly encourages him to leave the Island" (p. 120).

In fact, the Island's "overpopulation" is a fiction invented by government apologists for self-serving purposes. In recent years, the birth rate in Puerto Rico has been stable and may even have declined. Despite their presumed Catholic background (and many observers have commented that the Catholic Church has never wielded the power in Puerto Rico that it has had in most other Latin American countries), as many as one-third of all Puerto Rican women of child-bearing age have undergone sterilization (see Seidl, Shenk, and DeWind, 1980). Yet because of the so-called population surplus, Puerto Ricans have been, and continue to be, exploited as a reserve labor force by the United States.

Recent Developments

The recession of the early 1970s severely eroded, and may even have reversed, whatever gains were made in the Island's economy and in its people's standard of living during the first decades of the Commonwealth and Operation Bootstrap. The GNP declined, some American corporations declared bankruptcy, and as labor-intensive industry was replaced by capital-intensive industry (e.g., petrochemicals, pharmaceuticals), unemployment rose steadily. According to one estimate, currently "30 percent to 40 percent are unemployed, and many have given up looking for work" (Lernoux, 1981, p. 141). At the same time, federal outlays in the form of transfer payments rose steadily and, as one commentator put it, Operation Bootstrap began "to look like 'Operation Welfare'" (Nickel, 1979, p. 168). One paper from a 1980 conference on the future of Puerto Rico refers to the "ghettoization" of the Island, the process whereby "people unable to succeed elsewhere and government funds flow into the area [while] wealth generated in the area and upwardly mobile people continually flow out," thus setting in motion a "vicious cycle, in which reliance on welfare payments leads to the perpetuation of poverty and dependency" (Gutíerrez, as summarized by Heine and Mauger, 1980, p. 19). According to Wagenheim (1981): "Poverty has always plagued Puerto Rico, but never before has the island been so hooked on federal aid."

The food-stamp program is the most frequently cited example. In 1980, over half the population received food stamps, at a cost to the federal government of $938 million. Now, the Reagan Administration--in apparent outrage that 10 percent of U.S. expenditures for the food-stamp program goes to Puerto Rico--has not only cut food-stamps but is also changing over to a bloc-grant arrangement, whereby the Puerto Rican government must bear the costs of administering the program. The almost-certain result of such changes will be greater malnutrition among the residents of an island where the agricultural section has virtually disappeared and where expensive consumer foodstuffs must be imported from the Mainland.

The Reagan Administration has also cut the Comprehensive Employment and Training Act (CETA) program by about 25,000 jobs, driving unemployment even higher. Moreover, the insular bureaucracy has expanded drastically in recent years, to the point where close to two-fifths of employed persons in Puerto Rico hold government jobs. With the current federal emphasis on less government, this number will shrink, rendering even more people jobless. Apparently, the only official solution envisioned for this problem is the perennial one of out-migration: again, the so-called safety value approach. But how realistic is this "solution" when one considers that, as early as the 1950s, the flow started moving in the other direction, with Island-born Puerto Ricans who had earlier gone to the Mainland returning to the Island. More recently, their children--born and raised in the continental United States--have been traveling to the Island. Record-keeping has been poor, and estimates vary, but experts agree that return migration became a major phenomenon in the 1970s and that these returnees now constitute one-fifth of the Island's population.

Besides adding to the Island's "forced idleness," return migration imposes severe strains on an already overburdened public elementary and secondary school system which, according to a report of the National Education Association (1979) does not achieve even minimal NEA standards. The report details the major problems: "(1) inadequate physical plant; (2) teachers who are demoralized by what they see as a stagnant system dominated by political favoritism which places emphasis on personal relationships rather than scholarship and achievement; and (3) student violence" (NEA, 1979). To be sure, the United States gives some financial aid to Puerto Rican children. For instance, in 1979, 236,000 children on the Island received assistance, totaling $73.7 million, under Title I of the Elementary and Secondary Education Act. In addition, under P.L. 94-142, approximately $2.9 million went to 15,000 handicapped children in 1978-79. Yet per-student expenditures in Puerto Rico fall far below the level of the poorest state, and the Reagan Administration plans further cuts in aid to disadvantaged children.

Moreover, federal aid to college students has had an adverse effect on the Island's higher education system, according to a recent study by Duncan (1981). The Basic Educational Opportunity Grant program (which gears the amount of the award to tuition costs) has enabled an increasing number of Puerto

Rico's high school graduates to attend college, with enrollment expansion being much greater in the private than in the public sector. In contrast to the situation on the Mainland, Puerto Rico's private colleges are generally less selective and less prestigious than its public institutions, which tend to enroll the better-prepared (and more affluent) graduates of private secondary schools (see Petrovich, 1980). Because the private colleges have not had the faculty or the facilities to handle this influx of students, the quality of education offered has declined and the attrition rate among undergraduates has increased (see also Chapter 5). To make matters worse, any cutbacks in federal student aid will threaten the very survival of many of these private colleges.

In the words of one political analyst, Puerto Rico is "on the road from crisis to chaos" (García-Passalacqua, 1981). Puerto Rico's politicians have made only disordered and ineffective responses to the changes initiated by Washington during the past year. Indeed, the insular government itself is divided, since Governor Carlos Romero Barceló, of the pro-statehood Partido Nuevo Progresista (PNP, or New Progressive Party) won reelection by the narrowest of margins in 1980, while the pro-commonwealth PPD gained control of both houses of the legislature. In light of these ambiguous election results, Governor Romero has called off a scheduled referendum on the question of statehood.

Alfred Stepan (1980) believes that the status question "may ultimately present the United States with its most difficult Latin-American-related domestic and international problem in the 1980s" (p. 664). As even the PPD acknowledges, the present commonwealth arrangement is no longer tenable; even if it is maintained, substantial changes must be made, with Puerto Rico granted "most rights of independence, except for defense issues and a seat at the UN"

(Clerc, 1980, p. 33). Governor Romero and the PNP argue that statehood not only would guarantee Puerto Ricans full rights of citizenship, including voting representation in the U.S. Congress, but would also provide greater economic security for the population. Those who oppose this option point out that statehood is irreversible. Moreover, it is extremely doubtful that the Congress would accept the present conditions proposed by the statehooders: e.g., the assumption of Puerto Rico's public debt, the gradual phasing-in of the federal income tax, and the preservation of Spanish as the official language. It seems equally unlikely that the United States will grant Puerto Rico any meaningful independence, especially in view of the Island's strategic importance in the eyes of the U.S. military establishment. Thus, the future status of Puerto Rico remains in doubt.

CHAPTER 4

THE NEW YORK SCENE

Because the majority of Puerto Ricans in the continental U.S. live in New York City, and because other concentrations of Puerto Ricans in the United States also tend to be inner-city residents, this chapter focuses on the New York scene--with special emphasis on the school system and on the recent history of the City University of New York--as epitomizing the experience of Puerto Ricans on the Mainland.

In early 1948, C. Wright Mills, Clarence Senior, and Rose Kohn Goldsen conducted a study of Puerto Rican migrants living in Spanish Harlem and in the Morrisania area of the Bronx. Findings from the study, which involved interviews with members of 1,113 families and covered about 5,000 individuals, were reported in Puerto Rican Journey: New York's Newest Migrants (1950). Chapter 6 describes "The Puerto Rican World" in New York City, contrasting it with life on the Island. The authors point out, for instance, that even though Puerto Ricans in New York City had certain amenities (e.g., refrigerators) that they did not have on the Island, the physical conditions in which they lived were generally worse: They were crowded into cheap, dilapidated tenement buildings, and the northern weather confined them in a way they were not confined in Puerto Rico. "In slum areas, poor housing drives social life into the streets (p. 100), where delinquency and crime become problems. Moreover, Puerto Ricans in New York City tended to be isolated in the ghetto, which to some extent protected them from "the greater shock of the full stream of strident United States life;" the world beyond the ghetto was usually "impersonal and casual and distant and confusing" (p. 122). Other problems faced by Puerto Rican migrants in the late 1940s included racism, hostility evoked by their use of Spanish, the difficulties of adapting to a society where community controls no longer functioned, and the strain that sometimes developed between parents and children.

Although over three decades have passed since the Mills-Senior-Goldsen report was published, more recent accounts give the impression that life in the inner city has changed very little. If anything, conditions have worsened as the white middle class continues its exodus to the suburbs, as old tenement buildings continue to deteriorate and rats and cockroaches to flourish, and as ghetto areas come more and more to resemble bombed-out, burnt-out wastelands.

In 1980, David Vidal of the New York Times wrote a series of articles under the title "Living in Two Cultures: Hispanic New Yorkers," which summarized some of the available data and reported the results of a study involving lengthy interviews with 566 Hispanics (Puerto Ricans, Dominicans, Colombians, Cubans, and Ecuadorians). Among the notable statistics cited in the article: One-fourth of the population of New York City is Hispanic, double what it was in 1970, and Hispanics make up one-third of public school enrollments. In the early 1970s, the leading causes of death among Puerto Ricans between the ages of 15 and 44 were homicide, drugs, and cirrhosis of the liver. Over the last decade, the proportion of Puerto Rican women working outside the home declined; that decline may explain why Puerto Ricans are, as a group, worse off economically today than they were in 1970. They are having greater difficulty finding entry-level jobs, in part because the apparel industry has been especially hard-hit by the recession. The Hispanics interviewed saw housing as their most serious problem, followed by crime, drugs, sanitation, discrimination, and unemployment.

The articles also documented Hispanic attitudes: for instance, their strong pride in their heritage, including the Spanish language: "Most saw themselves as bilingual and thought knowledge of English was important, but they spoke emphatically of retaining their Spanish" (Vidal, 1980, p. 1). Concomitant with this pride was puzzlement or resentment over the failure of non-Hispanics to recognize and appreciate their culture. Openness, sociability, and emotionality are traits on which they prided themselves and which they felt are misunderstood by North Americans, whom they viewed as cold. Many found the American way of life "hostile to what they described as their tradition of family unity, personal warmth, respect for their elders and their own and other people's dignity" (Vidal, 1980, p. 42). The North American emphasis on material over moral values was also disturbing to them.

Three-fourths of the Puerto Ricans interviewed, including some who had been born in New York, did not regard themselves as Americans. One described himself as a "forced American," and several used the term "Newyorican." Moreover, many refused to identify themselves as either black or white. Other observers have commented that the deep-seated and pervasive racism of North American society--the tendency "to view the world in terms of either black or white" (Hauberg, 1974, p. 122) is alien to Puerto Ricans. To be sure, the Island has not been free of race and class distinctions, but these distinctions are "ascriptive-cultural rather than inherited-racial" (Hauberg, 1974, p. 122). Though the upper classes may have frowned on intermarriage, "there was no government-instituted discrimination" on the Island after slavery ended (Wagenheim, 1970, p. 162), and in the nineteenth and twentieth centuries, many black Puerto Ricans achieved positions of influence and respect. Confronted with color prejudice on the Mainland, Puerto Ricans have varied in their responses. According to López (1980):

> Thousands of Puerto Ricans internalized the prejudices of the very society that was exploiting and humiliating them. White Puerto Ricans who on the island had lived next to black Puerto Ricans now avoided black Americans . . .; black Puerto Ricans often did their best to emphasize their Puerto-Rican-ness so as not to be confused with American blacks. (p. 324)

Others, like those mentioned in the New York Times articles, assumed a kind of color-blindness, thus rejecting the black-white classification scheme. A more recent response, particularly evident in "Nuyorican" literature, is a recognition and reaffirmation of Puerto Rico's Afro-Caribbean heritage (see Flores, Attinasi, and Pedraza, 1981, pp. 205-206).

Elementary and Secondary Schooling

Nowhere is the trauma of the Puerto Rican experience on the Mainland more clearly demonstrated than in the New York City public school system. Such phrases as "education for failure" (Wakefield, 1959) and "the psychology of inadequacy" (López, 1973) have been applied to describe what has happened over the years to Puerto Rican children in the city's classrooms. Sexton (1965) uses the term "broken ladder to success," explaining that "education is said to be a ladder for the poor to climb up, but in East Harlem it is rickety and many steps are missing" (p. 54). Margolis (1968) likens the New York public schools to "a giant sieve sifting out all but the strongest, the smartest, or the luckiest" (p. 3). The failure of the school system is not unique to New York City. Weinberg (1977) summarizes a number of studies indicating that "all in all, Puerto Rican children suffered the same schooling wherever they lived" (p. 253).

Earlier immigrant groups had, of course, flocked to New York in the nineteenth and early twentieth centuries, often imposing tremendous strains on the school system. Nor did these earlier groups have as easy a time fitting into the mainstream of American life as is commonly supposed. Wilkerson (1970) comments:

> The schools [of earlier periods] served the immigrant poor just as badly as they serve the poor today, perhaps even worse. The big-city dropout rate during the 1920's was 80 percent, more than twice as large as today. The main difference was that an expanding economy at a relatively low level of technological development could absorb the uneducated masses--and did, affording them opportunities for upward mobility that are not available to the uneducated poor of our day. (pp. 94-95)

The sheer number of Puerto Ricans who arrived in New York City during the late 1940s and 1950s was unprecedented. According to Weinberg, Puerto Rican enrollments in the public school system almost doubled in four years: from 29,000 in 1949 to 54,000 in 1953. As Puerto Ricans were residentially segregated into certain areas of the city and, more recently, as the affluent white majority moved to the suburbs or enrolled their children in private schools, the proportions of Puerto Ricans in public schools increased until some schools became, in essence, segregated. Lópe z (1980) says: "During the late 1950s the number of Puerto Rican students in 'prestigious' New York City public high schools (Stuyvesant, Bronx High School of Science, and Brooklyn Technical High School) was infinitesimal. In 1962, in a graduating class of almost 700 students in Stuyvesant High School in Manhattan, there were only three Puerto Ricans" (p. 325).

During the early days, the schools had no coherent or comprehensive plan for dealing with Puerto Rican children in the classroom. Each principal was responsible for setting policy in his/her own school, with predictably chaotic results. Between 1953 and 1957, the New York City Board of Education undertook The Puerto Rican Study to examine the situation, giving particular attention to the questions of how to teach English as a second language and of how to help Puerto Rican parents and children adjust more rapidly and effectively to the community. According to Weinberg (1977), the most important recommendations to come out of this study were that a uniform policy be adopted "for the reception, screening, placement, and periodic assessment of non-English-speaking pupils" and that special materials be used in teaching them. As Weinberg further notes, however, "no heed was paid to the study, although repeated references were made to it" (p. 245).

Language has been and continues to be a major issue: "The schools converted what was essentially a language problem into a learning problem" (Weinberg, 1977, p. 243). From the beginning, teachers and students often had difficulty simply communicating with one another. Few teachers or administrators in the system spoke any Spanish (because, for one thing, the Board of Education automatically refused to credential anyone who spoke English with an accent, a restriction that disqualified many Hispanic teachers, thus creating another problem for the children--the lack of role models). Indeed, in some schools, the speaking of Spanish was explicitly forbidden, teaching was done entirely in English, and Hispanic students were punished for using their mother tongue even in talking to one another outside the classroom. The policy was sink-or-swim for those Puerto Rican children who arrived in this country knowing little or no English.

In 1948, Spanish-speaking substitute auxiliary teachers (SATs) were introduced into the system, but there were far too few of them to make a difference. Moreover, until 1963, SATs were second-class citizens on the teaching staff, since the position was not tenured. Other efforts to deal with the language "problem" included designating some teachers "Puerto Rican coordinators" and assigning them to help with the teaching of English. As Weinberg (1977) comments dryly: "The fact that most of them understood no Spanish interfered with their work" (p. 244). Informal buddy systems were also used, whereby older children with some command of English were assigned to work with other children.

The Bilingual Education Act (Title VII of the Elementary and Secondary Education Act of 1965) represented a concerted effort at the federal level to deal with the issue. Cordasco (1972) maintains: "The Act was a national manifesto for cultural pluralism and bicultural education, and in this sense may prove the most socially significant educational legislation yet enacted" (p. 120). It has certainly proved to be one of the most controversial.

In the eyes of some observers, bilingual education has so far failed to prove itself and so should be abandoned. On the other side, supporters of bilingual education maintain that, in many cases, it has worked very well. For instance, William Trombley, writing in the Los Angeles Times of September 4, 1980, describes P.S. 25, in "the ruins of the Bronx," where--despite rundown physical conditions, staff and budget cuts, and increases in class size--morale is high, order prevails, and the children (92 percent of whom are Spanish-speaking and 62 percent of whom are Spanish-dominant) seem to be learning well. Classes start out using Spanish as the chief language of instruction and then gradually, through the grades, move to English until by the sixth grade instruction is half in Spanish and half in English. In those cases where bilingual education has not worked, its supporters say, the difficulty is attributable to factors other than the concept itself: for instance, the lack of adequately trained teachers and proper instructional materials.

As was the case in Puerto Rico during the first four decades of the century, the language question has taken on political overtones, with people choosing sides on the basis of other-than-educational considerations. The ever-potent argument of the taxpayer's dollar is often advanced by those who begrudge the funds spent on bilingual education when school budgets in other areas are being slashed. Noel Epstein (1977) applies the label "affirmative ethnicity" to language-maintenance programs and questions whether public funds should be spent "to promote ethnic identities" (p. 67). Many teachers already in the system--and even more emphatically, teachers' unions--see "bilingual programs as a push for jobs and power" on the part of Hispanics (Stencel, 1978, p. 186). Even more rancorous is Tom Bethell's comment that the "covert purpose" of bilingual programs is a "kind of cultural revisionism" and that bicultural education "turns out to mean that in any transaction with the 'home' country, American tends to be in the wrong" (Bethell, 1979, p. 31).

The controversiality and complexity of the language issue should not be allowed to obscure the blatant fact that Puerto Rican children have been the victims of an unresponsive and inadequate school system. They are often crowded into the oldest and shabbiest of the city's schools, attend for half-day sessions, and are taught by inexperienced teachers (since the more experienced teachers often refuse to work in ghetto schools), who can be insensitive in dealing with the children. Margolis points out that the teacher

> is likely to be white, middle class and eager to teach. Doubtless she would have less trouble with students who were white, middle class and, according to her lights, eager to learn. . . . She abhors the barbarous symptoms of bigotry and allows herself the luxury of feeling tolerant. . . .Denying her prejudices, the teacher also denies genuine differences among her students.
> (Margolis, 1968, p.7)

Leacock, studying second- and fifth-grade classrooms in low-income and middle-income neighborhoods, concluded that lower-status children are treated differently by the system; the message that they are worthless is conveyed in a variety of ways: (1) textbooks and other instructional materials do not deal with lower-income children--a virtual denial of their existence; (2) their out-of-school experiences are not treated seriously by the teacher; (3) the organization of the classroom, and the assignment of responsibilities, is such as to downgrade them; and (4) negative comments exceed positive comments by a ratio of three to one, whereas in the case of middle-income children, positive comments tend to exceed negative ones (Leacock, 1970, pp. 199-200).

Other observers have postulated that the children learn little because the education they are given bears no resemblance to their daily lives; the examples used to illustrate ideas have no meaning for them. The Puerto Rican culture is often rejected by those in authority. Even when some effort is made to reflect the child's heritage, sheer ignorance renders that effort worse than useless. López recalls an incident from his early school years:

> We put on a Christmas play in which all the "Spanish children" danced a Mexican hat dance, leading it off by announcing, "Christmas in Puerto Rico!" Today when I watch little black and brown school children being taught to do Austrian and Yiddish folk dances I think of the fact that I, myself, along with all the other little Puerto Rican kids I went to school with, had to wear a Mexican sombrero to illustrate Christmas in Puerto Rico.
> (López, 1973, p. 154)

The New York City school system's failure with Puerto Rican children is well documented by their low scores on achievement tests. For instance, one study found 70 percent of second-graders, 82 percent of fifth-graders, and 81 percent of eighth-graders in predominantly Puerto Rican schools reading well below grade norms (U.S. Commission on Civil Rights, 1973, p. 246). Typically, Puerto Rican children are held back several grades below the norm. Not surprisingly, attrition is high. Testifying before the Senate Select Committee on Equal Educational Opportunity in 1970, Vasquez reported:

> In 1966, 10,142 Puerto Rican students entered the 10th grade in New York City. Two years later, there were only 4,393 in the 12th grade--a dropout rate of 56 percent.
> (Quoted in Weinberg, 1977, p. 248)

Carmen Velkas, a bilingual specialist in the New York City school system, estimated the dropout rate to be much higher, saying that in predominantly Puerto Rican high schools, only one student in twenty graduates (Trombley, 4 September 1980, p. 3).

Many of those who do make it through the twelfth grade are not eligible for college because they had chosen (or had been counseled) to take general diplomas rather than academic diplomas (López, 1973, p. 115). The lack of adequate counseling and guidance is a recurring complaint. Indeed, some critics charge that high school counselors explicitly discourage the aspirations of Puerto Rican students and channel them into educational dead-ends. That this complaint is based on something other than paranoia can be seen in the following passage from a report by J. J. Osuna (originally published in 1948), an education specialist who visited predominantly Puerto Rican high schools in New York City to report on conditions:

> Most of the Puerto Rican children attending public schools in New York will leave school as soon as it is legally possible and will go to work. The school must have a vocational guidance program to orient children in useful and gainful occupations upon leaving school. . . .The majority of the boys and girls of Puerto Rican extraction will either become unskilled, semi-skilled, or skilled laborers. The school should be able to guide them into vocational training in accordance with their abilities. (Osuna, 1972, p. 243)

Although the report is over thirty years old, Osuna's words reflect a frame of mind that seems to linger on among some secondary school personnel. Bonilla and Campos (1981) maintain:

> The problems of education for the Puerto Rican on the Island and in the United States are not simply similar or parallel but deeply interconnected. The operation of a dual and underfinanced educational system in Puerto Rico produces a mass of undereducated Puerto Rican youth on the Island. Pushed from their schools, these young people are forced to choose between a life of dependence, idleness or underemployment and emigration to the States, where a similar occupational role and educational experience awaits them and their children. Increasingly, the circular migration of Puerto Ricans between the Island and a growing number of states has meant that more and more Puerto Rican children will suffer the double penalty of attending two systems of public education whose insufficiencies and inadequacies are only further compounded by their incompatibilities. How in these circumstances Puerto Rican children can be given educational opportunities equal in every respect to those available to other United States citizens is an issue that has not even been formulated in more than piecemeal fashion. (pp. 163-64)

Puerto Rican parents interviewed in the New York Times study often expressed the idea that their children were being cheated of an education. Many believed that the failure was deliberate and planned, a way of "keeping us in our place." Parental discontent erupted in New York City in the late 1960s, when what Ravitch (1974) calls the fourth great school war was waged over the question of community control of the schools. Blacks and Puerto Ricans banded together and staged a boycott, in protest over the inferior education that their children were receiving, the poor-quality schools they were forced to attend, and the school authorities' apparent lack of concern about the needs and desires of minority parents and children. A small victory was won when the school system was decentralized; but whether actual community control over the schools now exists is questionable. The U.S. Commission on Civil Rights (1976) found that, even after decentralization, "parental involvement in important school decisions remains limited" (p. 110) and that the number of Puerto Rican teachers and administrators in the system has increased only modestly. According to Fuentes, even though power ostensibly was given to thirty-one community shcool boards, in actuality those boards have no power in the hiring and firing, or even the evaluation, of teachers; they are "phantoms, charged with heavy responsibility but having no actual authority" (1974, p. 14).

Higher Education

That organized community action can be effective, at least in the short run, in bringing about changes that benefit minorities is demonstrated by the case of the City University of New York (CUNY), an academic institution of special interest because it accounts for a substantial proportion of Puerto Rican enrollments in Mainland colleges and universities. Starting with the fall 1970 term, CUNY initiated an "open-admissions" policy whereby any graduate of a New York City high school, regardless of high school grades or admissions test scores, would be admitted to one of the CUNY campuses.

Early in 1966, the CUNY Board of Education had announced its plan to move to open admissions within the next fifteen years. In 1969, however, student protesters--both Puerto Ricans and Blacks--closed down City College of New York and staged militant demonstrations at several other colleges in the system. Not only did the Board of Education advance the date for the change to open admissions, but also it granted several other concessions to protesters. Puerto Rican Studies programs were initiated at several campuses, and in 1970, Hostos Community College (named after Eugenio María de Hostos, Puerto Rican philosopher, essayist, and novelist) was established in the heart of the Bronx, primarily to serve the needs of the surrounding Puerto Rican community.

The open-admissions policy remained in effect for six years (from 1970 through 1975). During that period, Puerto Rican enrollments rose substanially: from 5,425 in 1969 (just prior to the introduction of the policy) to 18,570 in 1975, a 242 percent increase (Nieves, 1979, p. 33). In 1969, Puerto Ricans constituted only 4 percent of total enrollments; by 1979, they accounted for 8 percent. Moreover, according to one estimate, one-third of the Hispanics who entered CUNY in 1970 would not have been admitted under regular admissions criteria (Lavin, Alba, and Silberstein, 1979).

Even with open admissions, however, Puerto Ricans students tended to be "tracked" into the community colleges rather than into the four-year colleges, especially the "elite" institutions in the system. Moreover, they were disproportionately enrolled in vocational and clerical programs rather than in liberal arts, science, and preprofessional programs (Lavin, Alba, and Silberstein, 1979). Thus, those who went to community colleges often attained no more than an associate degree and did not transfer to senior colleges. Finally, their attrition rates were high, and relatively few who enrolled in the four-year colleges completed a degree within the traditional four years.

Besides moving to open admissions, the CUNY campuses provided various types of supportive services (counseling, remedial courses, tutoring), in the hopes that the open door would not become a revolving door. An evaluation study of the first year of open admissions at CUNY concluded:

> Even though the CUNY colleges worked under tremendous time pressures in finding physical space, adjusting and developing curricula and supportive services, and hiring new staff and faculty, their efforts were, by and large, successful. Most students (whether open-admissions or regular-admissions) expressed satisfaction with various aspects of their first-year experience. Moreover, the retention rates of CUNY's colleges were close to those of similar types of institutions across the nation.
>
> . . .it is obvious that many of New York City's young people who were previously regarded as "bad risks"--unfit for publicly supported postsecondary education--are quietly achieving those self-determined objectives that will help them to lead more meaningful and productive lives.
>
> (Rossmann, Astin, Astin, and El-Khawas, 1975, p. 167)

Unfortunately for those young people--among whom were many Puerto Ricans--New York's fiscal crisis in 1975 not only put an end to open admissions and resulted in a return to the use of academic achievement criteria for admission but also lead to the imposition of a tuition fee. In addition, fixed retention requirements were introduced and many programs, including ethnic studies and supportive services, were eliminated. The changes were made so quickly that effective protest could not be mounted, although Puerto Ricans were successful in opposing the merger of Hostos with Bronx Community College (Nieves, 1979).

What happened at CUNY is all too typical of what has been happening with other educational advances that were made during the 1960s and that benefitted minority groups, including Puerto Ricans. Concern over the plight of disadvantaged minorities in the United States has been waning, having been replaced on the list of top national priorities by such issues as inflation, unemployment, and the energy crisis. Growing awareness that the college-age population will decline sharply during the 1980s and 1990s has led many educators to fear that the quality of education offered, if not the very survival of some institutions, is in jeopardy. This anxiety is intensified by what appears to be increasing public skepticism about the value of higher education and, in particular, about its relative costs and benefits. Under these pressures, commitments made in more comfortable and generous times are being broken.

CHAPTER 5

PUERTO RICAN STUDENTS IN MAINLAND COLLEGES

One problem connected with doing research on Puerto Rican college students is that they are by no means a homogeneous group. Although no comprehensive studies have been done of the socioeconomic backgrounds of Puerto Ricans in U.S. higher education institutions, one can assume that the majority are the children of Puerto Ricans who came to the Mainland in the years following the initiation of Operation Bootstrap and thus are of working-class origins. An apparently increasing number of Puerto Rican students in U.S. colleges and universities, however, can be regarded as "seasonal migrants" in that they graduated from secondary schools on the Island and came to the Mainland for the express purpose of getting a post-secondary education; presumably most of them return to Puerto Rico after completing their education. The two groups differ considerably in their socioeconomic status and educational backgrounds, and these differences undoubtedly affect their college performance.

Enrollment data on Puerto Ricans are difficult to obtain, and breakdowns by residence (defined as the "home state" in which the student completed his/her secondary education) are even more elusive. Brown et al. (1980, p. 160) report that, in the fall of 1975, 5,547 residents of Puerto Rico were enrolled in colleges in the 50 states and the District of Columbia. According to Professor José Hernández of the University of

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Note: All the material and some of the language in this chapter come from a paper prepared for this project by Dr. Janice Petrovich.

Wisconsin, who provided unpublished tabulations from the Survey of Income and Education, a total of 43,700 Puerto Ricans over 14 years of age were attending higher education institutions in the continental Unites States in 1976. (Of these, 13,700 were classified as undergraduates, 5,600 as graduate students, and 24,400 as students in "special schools," presumably vocational and occupational programs.) Thus, in the mid-1970s, Island residents accounted for approximately 10 percent of the total Puerto Rican enrollment in postsecondary education on the Mainland.

The trend for Puerto Ricans raised on the Island to enroll in Mainland colleges appears to be accelerating. In a survey of 15 private high schools in Puerto Rico, undertaken for this project by Dr. Janice Petrovich, all the schools reported annual increases in the proportions of their graduates who enroll in postsecondary education in the continental U.S. The overall figure for the graduating class of 1980 was 47 percent, though a few secondary schools said that as many as 90 percent of their graduates traveled to the Mainland for their college education. By way of contrast, the Department of Public Instruction reports that only about 2 percent of the graduates of public high schools in Puerto Rico migrate to the U.S. for reasons that include college attendance.

That the graduates of Puerto Rico' private high school are more likely than the graduates of its public high schools to pursue postsecondary education in the U.S. is a reflection of the social class stratification of the Island's formal education system (Petrovich, 1980). Numerous studies demonstrate that upper-class Puerto Ricans tend to send their children to private, mostly parochial, elementary and secondary schools, whereas the public schools serve the children of working-class parents. The private school's emphasis on the English language, its more academic orientation, and the cultural capital its students possess by virtue of their social class, all facilitate the entry of private-school graduates into U.S. institutions. In addition, substantial numbers of these graduates go to Spain, France, England, Canada, and Latin American countries for their postsecondary education.

Data on the enrollment of Puerto Ricans from the Island at the graduate and professional levels in Mainland institutions are unavailable. Their number is probably considerable, given the scarcity of high-level training programs in Puerto Rico.

It would seem that relatively few Puerto Ricans raised on the Mainland travel to the Island for their postsecondary education. According to data from the major higher education institutions in Puerto Rico (the University of Puerto Rico, Inter American University, Fundación Educativa Ana G. Méndez, Catholic University, World University, Colegio Universitario del Sagrado Corazón, American College, and Universidad Central de Bayamón), in the 1978-79 academic year, fewer than 200 students transferred from institutions in the U.S., and about 150 graduates of high schools in the United States entered as freshmen. (The data from some of these institutions include students from countries other than the United States.)

Comparison of Socioeconomic and Educational Characteristics

At the request of study director Alexander W. Astin, the College Board provided recent and as-yet-unpublished data on Puerto Rican high school seniors who took the English version of the Scholastic Aptitude

Test (SAT) in 1979-80. Because these data come from high schools on the Island as well as on the Mainland, they offer a unique opportunity to examine in some detail differences between the two groups. Generally, students who apply to higher education institutions on the Island take a Spanish version of the SAT. It seems safe to assume, then, that those students from Puerto Rican high schools who take the test in English are intending to enroll in academic institutions on the Mainland rather than in Puerto Rico. Thus, inferences can be drawn about students actually enrolled in college.

The location of the high school was used to distinguish between "Island" and "Mainland" seniors. The former constituted approximately one-quarter of all students self-identified as Puerto Rican who took the English version of the SAT in 1979-80.

As Table 2 indicates, the parents of seniors in Island high schools tended to be much more highly educated than the parents of seniors attending Mainland high schools. For example, over one-third of the fathers of Island seniors, compared with only one-tenth of the fathers of Mainland seniors, had gone beyond the baccalaureate. Over half of the mothers of Island seniors, compared with slightly over one-tenth of the mothers of Mainland seniors, had completed the baccalaureate. Conversely, 43 percent of the mothers and fathers of Mainland seniors had dropped out of school before completing their high school education; comparable figures for the parents of Island seniors were 13 percent of the fathers and 2 percent of the mothers.

Similarly, the parental incomes reported by seniors attending high schools on the Island tended to be much higher than the parental incomes

Table 2

Educational Attainment of the Parents
of Puerto Rican High School Seniors, 1979-80,
by Location of High School

(percentages)

Level	Father's Education		Mother's Education	
	Mainland	Island	Mainland	Island
Grade school	21.6	7.0	21.4	1.7
Some high school	22.1	6.0	22.2	0.3
High school diploma	21.8	14.3	27.3	16.1
Business or trade school	5.1	5.5	4.7	10.9
Some college	11.9	13.9	12.2	18.9
Bachelor's degree	6.6	19.6	5.1	29.8
Some graduate or professional school	2.5	4.1	2.4	5.2
Graduate or professional degree	8.5	29.7	4.8	16.6
Number responding	6,520	2,224	6,613	1,432

Source: College Board, 1980.

Note: These data were provided by Puerto Rican high school seniors who participated in the Admissions Testing Program during the 1979-80 school year. Mainland seniors were those who took the Scholastic Aptitude Test (SAT) while attending high schools in the 50 states and the District of Columbia. Island seniors were those who took the SAT in English while attending high schools in Puerto Rico.

reported by seniors in Mainland schools (Table 3). Thus, twice as many Island seniors (5.6 percent) as Mainland seniors (2.8 percent) said their parents' annual income was $50,000 or more. Conversely, over half (54 percent) of the Puerto Ricans from Mainland high schools, but only two-fifths of those from Island high schools, said their parents had incomes of under $12,000 a year. These differences become even more marked when one recognizes that a high income probably means more in status terms in Puerto Rico.

Puerto Ricans attending Island high schools tended to earn higher overall grade-point averages than did those in Mainland schools (Table 4). Thus, 69 percent of the former, but only 46 percent of the latter, made high school grade-point averages of 3.00 and above. Similarly, Island seniors tended to hold higher ranks in their high school graduating classes than did Mainland seniors (Table 5). Only 32 percent of the former, compared with 55 percent of the latter, graduated in the top quintile of their classes.

The degree aspirations of seniors attending Island high schools tended to be higher than those of Mainland seniors (Table 6). Over two-thirds of the former (69 percent), compared with about two-fifths of the latter (41 percent), planned to get an advanced degree (master's, doctorate, professional). Conversely, 9.4 percent of the Mainland seniors, compared with only 2.6 percent of the Island seniors, aspired to no more than an associate degree.

The College Board data revealed other differences between the two groups of seniors. The first involved language: Fewer than 25 percent of Puerto Ricans from Island high schools, compared with over 90 percent

Table 3

Annual Parental Income Reported by Puerto Rican High School Seniors, 1979-80, by Location of High School

(percentages)

Income	Mainland	Island
Under $6,000	21.0	15.8
$ 6,000-$11,999	32.8	23.7
$12,000-$17,999	17.9	19.9
$18,000-$23,999	11.5	16.3
$24,000-$29,999	6.8	8.8
$30,000-$39,999	5.1	6.3
$40,000-$49,999	2.1	3.7
$50,000 or over	2.8	5.6
Number responding	5,995	2,016

Source: College Board, 1980.

Note: These data were provided by Puerto Rican high school seniors who participated in the Admissions Testing Program during the 1979-80 school year. Mainland seniors were those who took the Scholastic Aptitude Test (SAT) while attending high schools in the 50 states and the District of Columbia. Island seniors were those who took the SAT in English while attending high schools in Puerto Rico.

Table 4

Overall High School Grade-Point Average for Puerto Rican High School Seniors, 1979-80, by Location of High School (percentages)

Grade-Point Average	Mainland	Island
3.75-4.00	7.4	22.5
3.50-3.74	8.6	16.1
3.25-3.49	11.5	14.3
3.00-3.24	18.8	16.4
2.75-2.99	13.8	10.2
2.50-2.74	15.2	9.2
2.25-2.49	10.4	6.0
2.00-2.24	9.0	3.8
Under 2.00	5.4	1.8
Number responding	7,258	2.398

Source: College Board, 1980.

Note: These data were provided by Puerto Rican high school seniors who participated in the Admissions Testing Program during the 1979-80 school year. Mainland seniors were those who took the Scholastic Aptitude Test (SAT) while attending high schools in the 50 states and the District of Columbia. Island seniors were those who took the SAT in English while attending high schools in Puerto Rico.

Table 5

High School Rank of Puerto Rican High School Seniors, 1979-80, by Location of High School

(percentages)

High School Rank	Mainland	Island
Top tenth	12.3	23.6
Second tenth	19.8	31.6
Second fifth	28.5	23.2
Third Fifth	33.0	18.8
Fourth Fifth	5.1	2.3
Lowest Fifth	1.3	0.5
Median percentile rank	67.4	81.5
Number responding	6,794	2,225

Source: College Board, 1980.

Note: These data were provided by Puerto Rican high school seniors who participated in the Admissions Testing Program during the 1979-80 school year. Mainland seniors were those who took the Scholastic Aptitude Test (SAT) while attending high schools in the 50 states and the District of Columbia. Island seniors were those who took the SAT in English while attending high schools in Puerto Rico.

Table 6

Degree Aspirations of Puerto Rican High School Seniors, 1979-80, by Location of High School

(percentages)

Aspirations	Mainland	Island
Two-year training program	5.0	1.4
Associate in arts program	4.4	1.2
Baccalaureate degree	29.3	21.0
Master's degree	22.9	24.5
Ph.D., M.D., or other professional degree	18.2	44.6
Undecided	20.2	6.8
Number responding	7,279	2,471

Source: College Board, 1980.

Note: These data were provided by Puerto Rican high school seniors who participated in the Admissions Testing Program during the 1979-80 school year. Mainland seniors were those who took the Scholastic Aptitude Test (SAT) while attending high schools in the 50 states and the District of Columbia. Island seniors were those who took the SAT in English while attending high schools in Puerto Rico.

of those from Mainland high schools, considered English to be their best language. The second concerned employment: Over half the Puerto Rican seniors from Mainland schools (56 percent) said they had worked part time while attending high school; only about one-third of those from Island schools had done so. Moreover, the Mainland seniors tended to work a greater number of hours per week than did the Island seniors. Finally, the great majority of Mainland seniors (80 percent) attended public high schools, whereas the majority of Island seniors (70 percent) attended private high schools.

College Board data on high school seniors in the 1974-75 school year confirm these differences: That is, of Puerto Ricans taking the SAT in English, those from Island high schools tended to come from higher socioeconomic backgrounds (as measured by parental income and education), to have better high school records (as measured by grades and class rank), and to have higher degree aspirations. These findings reflect the different class origins of the two groups of (prospective) undergraduates in U.S. colleges: Puerto Ricans attending Mainland high schools are likely to be the children of Puerto Ricans who migrated to the continental United States in earlier decades and thus to be of working-class background, whereas those from Island high schools tend to be the children of upper-class parents. The point is that when aggregate data are reported for Puerto Rican students in U.S. colleges and universities, the more seriously disadvantaged position of those who graduated from Mainland high schools is masked.

Socioeconomic data on Puerto Ricans actually enrolled in postsecondary education in the United States are scarce. Field research conducted in New York, Philadelphia, Newark, and Chicago suggests that the Puerto

Rican graduate of a Mainland high school is likely to be male, to come from a low-income family, and to be the first of his family to attend college. He tends to be older than the average college student and to have worked or completed military service before entering college. Typically, he commutes to a low-cost, open-admissions community college located in an Eastern metropolitan area. Finally, he is often severely handicapped by earlier educational deficiencies, particularly in communication skills (U.S. Commission on Civil Rights, 1976).

The Puerto Rican College Student as Migrant

While the migration phenomenon that has produced the Mainland-resident Puerto Rican student has been extensively studied, the seasonal migration of Island residents to colleges on the Mainland is a phenomenon that has been but barely recognized. The Mainland-resident Puerto Rican college student seems to share the social, economic, and educational disadvantages of other minorities in the United States. In contrast, the Puerto Rican student who travels from the Island specifically to attend a higher education institution in the continental U.S. is likely to come from a relatively privileged socioeconomic and educational background.

It may be argued that the migration patterns of both groups are motivated by "free" decisions on the part of individuals. Such reasoning, however, fails to relate migration to the larger economic, political, social, and cultural forces that shape this increasingly complex flow. The migration process is defined by an interplay of factors; first and foremost of these is Puerto Rico's structural dependence on the United States. It is within this framework that the exodus of Puerto Ricans following World War II, as well as the seasonal flow of college students, should be examined.

High rates of unemployment in Puerto Rico, widespread faith in education as a vehicle for social mobility, and a national policy favoring education as an investment for development have all contributed to the scramble for credentials. Several considerations motivate Puerto Rican youth raised on the Island to go abroad for postsecondary education, if they can afford to do so. First, the rapid expansion of college enrollments on the Island--fueled by increases in federal student aid funds--has enhanced the prestige of postsecondary institutions in the U.S. Because of the availability of federal assistance--most notably through the Basic Educational Opportunity Grants program--and the scarcity of jobs, more and more of the Island's high school graduates have been entering its colleges and universities. This growth has been especially marked in the private sector, where enrollments increased by 115 percent between 1973 and 1979, compared with an increase of 11.7 percent in the public sector. According to a recent study by Ronald Duncan (1981), this influx has adversely affected Puerto Rico's higher education system: physical plant facilities have been severely strained; faculty members have been overloaded; and, since many new students are inadequately prepared to meet the demands of college, undergraduate attrition rates have climbed. As the quality of the education offered in Puerto Rico's colleges and universities has deteriorated, the attractiveness of Mainland institutions has increased. Moreover, the colonial mentality has always invested these institutions with greater prestige.

Second, opportunities for graduate and professional training on the Island are few, and such training centers as do exist generally lack the modern equipment and up-to-date curricula found in Mainland centers. Third, U.S. firms provide many of the better-paying jobs in Puerto Rico; thus, familiarity with the language and culture of the Mainland is an important asset to a Puerto Rican college graduate. Finally, the structural pattern of industrialization in Puerto Rico, as in other developing countries, is characterized by a production cycle that offers limited opportunities for research and development. Industrial firms tend to reserve the more complex stages of production for their Mainland plants, while only the simpler and more routine operations are carried out on the Island. Thus, if scientists and engineers are to find jobs commensurate with their skills and training, they must migrate to the U.S.; this migration is facilitated if they have been educated in Mainland colleges and universities.

For all these reasons, then, Island residents are inclined to regard credentials from a Mainland collegiate institution as more prestigious and more marketable, both in Puerto Rico and in the United States, than credentials from an Island institution. The movement of Puerto Ricans to and from the United States is made easier by their U.S. citizenship and by the frequency, speed, and relatively low cost of air travel.

Summary

This chapter was intended to demonstrate that looking at data for all Puerto Rican college students, without regard to their family and educational backgrounds, can be misleading. Those Puerto Rican students who travel from the Island to the Mainland for the express purpose of getting a college education differ considerably from those Puerto Rican college students who were raised and attended high school on the Mainland, with the former tending to come from a more affluent socioeconomic level and to be better prepared educationally. The inclusion of this group among all Puerto Rican college students tends to give a false picture by masking the severe disadvantages of those Puerto Ricans who were raised on the Mainland.

CHAPTER 6

THE EDUCATIONAL PIPELINE FOR PUERTO RICANS

This chapter attempts to chart the course of Puerto Ricans through the nation's educational system, giving particular attention to five "leakage" points in the pipeline: high school completion, college entry, college completion, entry to graduate or professional school, and graduate/professional school completion. At each higher level of the system, the proportion of Puerto Ricans decreases; and this progressive thinning out explains, in large part, why so few Puerto Ricans hold positions of influence, leadership, and status in American society.

Accurate statistics on the representation of Puerto Ricans at various levels of the educational system in the United States are hard to come by for several reasons. First, federal and other agencies typically collect and report data for the general category "Hispanic" (or "Spanish-speaking" or "Spanish-surnamed"), which includes Chicanos (about 60 percent of the total group of Hispanics, according to 1978 Census figures), Cubans (5.7 percent), Central or South Americans (7.2 percent), and "other Hispanics" (12.6 percent), as well as Puerto Ricans (15 percent). Moreover, many observers believe that Census surveys severely undercount Hispanics residing in the United States (U.S. Commission on Civil Rights, 1974).

Second, even in those instances where data are collected and reported separately for Puerto Ricans, sample sizes are often so small as to render analysis unreliable and subject to considerable error. For that reason, many of the findings reported in the following pages are based on data aggregated across several years.

Third, as was indicated in earlier chapters, the Puerto Rican population is fluid. Movement to and from the Island (and consequently in and out of the educational system of the continental United States) complicates the statistical picture, especially at the postsecondary level. Chapter 5 pointed out that Puerto Ricans attending Mainland colleges and universities do not constitute a homogeneous group but rather can be divided into two subgroups: (1) those who were raised and went to school chiefly in the U.S. and (2) those who were raised and went to school chiefly in Puerto Rico and who come to the Mainland for the express purpose of attending college or graduate/professional school. Members of the latter subgroup, who may constitute anywhere from under 10 percent to about 20 percent of all Puerto Ricans in U.S. higher education (depending on level and year), tend to come from relatively high socioeconomic backgrounds and to be well prepared educationally, since the great majority of them attended private high schools on the Island.

Educational Attainment

Despite these difficulties,data from a variety of sources can be pieced together to give some sense of the movement of Puerto Ricans through the educational pipeline and of the leakage points that are especially critical to this racial/ethnic minority. (For a detailed discussion of how estimates were derived, and for comparison with other racial/ethnic groups, see Astin, 1982).

High School Completion

Simply getting through high school constitutes a problem for many Puerto Ricans. According to aggregate data for 1974 through 1978, collected in the October Current Population Surveys (CPS) of the U.S. Bureau of the Census (see Table 7), over half (52.5 percent) of the Puerto Ricans in the age 20-25 population were dropouts: i.e., had not graduated from high school and were not currently enrolled in school at the time of the survey. This dropout rate is three times as high as the rate for Whites (17.8 percent), almost twice as high as the rate for Blacks (29.4 percent), and slightly higher than the rate for Chicanos (49.7 percent). (Data on American Indians were not available from this source.)

Other sources yield somewhat different rates. For instance, aggregate data from the Current Population Surveys conducted each March indicate that, during the 1970s, about three in five 20-24-year-old Hispanics, and 55 percent of 25-29-year-old Hispanics, had completed high school; thus, the dropout rate is 40-45 percent. The most logical explanation for the difference in these estimates is that other subgroups included in the Hispanic category have much higher rates of secondary school completion than do Puerto Ricans (or Chicanos).

This interpretation is supported by data from the Survey of Income and Education, conducted by the U.S. Department of Health, Education, and Welfare: In 1976, one in four Hispanics in the age 14-30 population was neither a high school graduate nor currently enrolled in school. The noncompletion rates for the various subgroups were as follows: Puerto Ricans, 31 percent (26 percent of the men, 35 percent of the women); Chicanos, 27 percent; Central and South Americans, 17 percent; "other" Hispanics, 13 percent; and Cubans, 12 percent (Brown, Rosen, Hill, and Olivas, 1980, p. 100). In short, Puerto Ricans were the least likely of any Hispanic group to have completed high school. The noncompletion rate indicated by this source is lower than the estimate for 20-24-year-olds mentioned earlier (52.5 percent) because of the inclusion of 14-20-year-olds, many of whom were still enrolled in high school and thus cannot be considered dropouts. In addition to the considerable sex difference favoring

Table 7

Proportions of High School Dropouts
in the 14-25-Year-Old Puerto Rican and White Population

(Weighted Five-Year Averages, 1974-1978)

	Puerto Ricans		Whites	
Age	Sample Number[a]	Proportion of Dropouts	Sample Number[a]	Proportion of Dropouts
14	138	2	11,282	1
15	147	4	11,467	2
16	123	12	11,587	6
17	120	19	11,223	10
18	113	36	10,673	13
19	97	42	10,043	16
20	85	52	10,046	18
21	86	49	9,990	17
22	89	54	9,817	18
23	102	62	9,700	18
24	98	41	9,786	18
25	88	56	9,534	18
Age 20-25				
Sample number	548		58,878	
Mean		52.5		17.8

Source: Current Population Survey Public Use Tapes provided by the Bureau of the Census, U.S. Department of Commerce.

Note: A dropout was defined as any person who, at the time of the survey, was not a high school graduate and was not enrolled in school.

[a] Sample obtained by combining data from five consecutive Current Population Surveys (October surveys, 1974-1978).

men, the same source indicates that, among Puerto Ricans in the 14-30 age group, a much larger proportion of those born outside the Mainland (45 percent) than of those born on the Mainland (16 percent) had not graduated from high school and were not currently enrolled in school (Brown et al., 1980, p. 102). This difference is consistent with the observation that most Puerto Ricans who migrate to the U.S. (as opposed to those who come here for the express purpose of attending college) come from working-class backgrounds.

That different subgroups of Hispanics differ considerably in their level of educational attainment is confirmed by a Census report based on 1974 data which show that, of Hispanic men 25 years and older, 31 percent of the Puerto Ricans and the Chicanos, but 57 percent of "other" Hispanics, had graduated from high school; comparable figures for women in the same age group were 29 percent for Puerto Ricans, 28 percent for Chicanas, and 51 percent for "other" Hispanics. This translates into a high school dropout rate of 70 percent for Puerto Ricans, much higher than the estimate of 52.5 percent. The higher estimate is probably attributable to the inclusion of people over 30 years of age, who are even less likely than younger people to have completed their secondary school education. This differerce is in part generational (and thus can be found, to some extent, in all racial/ethnic groups), but it is also attributable to the fact mentioned above that Puerto Rican migrants to the Mainland have tended to come from low socioeconomic levels.

Not only are Puerto Ricans more inclined than others to drop out of high school, but also they start leaving school at an early age. As Table 7 indicates, dropout rates among Puerto Ricans between the ages of 14 and 17 were twice as high as the rates for Whites. The implication is that, to reduce attrition among Puerto Ricans, efforts must be initiated during the junior high school years and continue through high school.

By age 18, one in three Puerto Ricans was a high school dropout. After age 20, the dropout rates shown in Table 7 tended to stabilize for other racial/ethnic groups but were highly variable for Puerto Ricans, primarily because of the small sample sizes involved. Nonetheless, even the very lowest figure for Puerto Ricans (41 percent of the 24-year-olds) was over twice as large as the highest figure for Whites (18 percent).

Of course, some Puerto Ricans who have dropped out of high school may eventually reenroll and get their high school diplomas. But the more years that go by, the smaller the likelihood that a person (of whatever race/ethnicity) will return to high school to complete his/her education or will take some sort of high-school-equivalancy test. Anyone who has not completed high school by age 20 may well be lost to the higher education system forever.

It seems reasonable to conclude from the data presented in this section that about half of young Puerto Ricans in recent years have not reached what is generally regarded as the minimum level of educational attainment required to move out of blue-collar and service jobs. These considerations underscore the urgency of plugging up the high school leak.

College Entry

Once they have made it through high school, entry to college seems somewhat less of a stumbling block for Puerto Ricans than for other racial/ethnic groups. Table 8, which is based on aggregate data (1974-78) from the October CPS, indicates that over half (54 percent) of those Puerto Ricans who graduated from high school in June were enrolled in college full time the following September. This rate is higher than that for any other racial/ethnic group on whom data were available: Only 45 percent of the Whites, 41 percent of the Blacks, and 38 percent of the Chicanos entered college immediately after high school gradua-

Table 8

Proportions of Puerto Rican and White High School Graduates Enrolled as Full-Time College Students

(Weighted Five-Year Averages)

Number of Years Since High School Graduation[a]	Puerto Ricans		Whites	
	Sample Number[b]	Proportion in College	Sample Number[b]	Proportion in College
None	50	54	9,477	45
One	44	41	8,492	37
Two	63	37	10,287	33
Three	57	30	9,577	31
Four	53	25	9,653	18
Total	267		47,486	
Mean		37.4		32.8

Source: U.S. Bureau of the Census, October Current Population Surveys, 1974-1978.

[a] Since high school graduation usually takes place in June and the surveys are conducted in October, four months should be added to each value (i.e., one year really means one year plus four months, etc.).

[b] Sample of recent high school graduates obtained by combining data from five consecutive Current Population Surveys (October surveys, 1974-1978).

tion. These figures on full-time enrollment in college probably err in the direction of overestimation, since the data in the CPS are based on information provided by a household informant, who may be uncertain about the exact enrollment status of other household members or who may confuse collegiate with vocational/technical institutions. Moreover, the sample sizes on which these figures are based were very small and thus subject to considerable error.

One year after high school completion, the proportion of Puerto Rican high school graduates who were attending college full time had fallen to 41 percent. The proportions continue to decline until, four years after high school graduation, only 25 percent of the Puerto Ricans with high school diplomas (less than half the initial proportion) were enrolled full time. This does not necessarily mean that Puerto Ricans have an attrition rate of over 50 percent during the undergraduate years. The rate could be lower (since some of these students may have switched to part-time status or may be "stopping out" of college temporarily), or it could be higher (since the figures for full-time enrollment are inflated by those students who delay entry to college for a year or more following high school graduation). Whatever the case, the proportions of Puerto Ricans enrolled full time continue to exceed the proportions of other racial/ethnic groups, indicating that the initially high figure was not attributable to sampling error. The most plausible explanation for this high rate of college entry involves the concentration of Puerto Ricans in New York City: During the first three years covered by these data, the City University of New York had an open-admissions policy which brought many of the city's Puerto Rican high school graduates into collegiate education (see Lavin, Alba, and Silberstein, 1979; Nieves, 1979).

The validity of these estimates is difficult to check because other sources treat Hispanics as a single group. For instance, combined data from the March

Current Population Surveys for 1973 through 1978 indicate that an average of about 23 percent of the 20-29-year-old Hispanic population had attended college (see Table 10). Dividing this figure by the estimated 60 percent of all Hispanics who completed high school, one arrives at the conclusion that 38 percent of all Hispanic high school graduates enter college.

Another approach to the question of college attendance involves comparing the proportion of Puerto Ricans in the freshman class with their proportion in the college-age population (18-22-year-olds), which in 1975 was an estimated .79 percent. Table 9 shows alternative estimates of the representation of the four minority groups covered in this project, and of Whites, among entering college freshmen. Three data sources were used for these estimates. The first was the National Longitudinal Study (NLS), which looked at students who in 1972 entered college directly from high school; it sets the proportion of Puerto Ricans in this freshman cohort at .53 percent. Second, the Cooperative Institutional Research Program (CIRP) annually surveys a 15 percent sample of first-time, full-time freshmen, approximately 97.5 percent of whom graduated from high school in the year of the survey; three-year averages (for 1971, 1972, and 1973, and for 1975, 1976, and 1977) were used to provide more reliable estimates. According to this source, Puerto Ricans constituted a mean of .4 percent of first-time, full-time freshmen in the years 1971-73 and .7 percent in the years 1975-77. The third source, the Office for Civil Rights (OCR) reports data for the general category "Hispanics"; if we take 15 percent of the figure for Hispanics to represent Puerto Ricans, we arrive at a figure of .8 percent among 1976 entering freshmen, which slightly exceeds their 1975 representation in the college-age population. The OCR figure is probably inflated for two reasons: First, as was pointed out earlier, the educational attainment of other subgroups of Hispanics (e.g., Cubans) tends to be higher than

Table 9

Alternative Estimates of Minority Representation Among Entering College Freshmen

(percentages)

Racial/Ethnic Group	National Longitudinal Study (1972)	Cooperative Institutional Research Program (Mean, 1971-72-73)	Cooperative Institutional Research Program (Mean, 1975-76-77)	Office for Civil Rights (1976)	18-22-Year-Olds in U.S. Population (1975)
Whites	81.0	89.1	86.5	78.6	86.0
Blacks	11.5	7.6	8.7	12.0	12.1
Chicanos	2.1	1.3	1.5	3.2	3.5
Puerto Ricans	.53	.4	.7	.8	.79
American Indians	.61	.97	.87	.9	NA

that of Puerto Ricans and Chicanos. Second, the OCR data include part-time as well as full-time students, and a larger proportion of Hispanics (47.4 percent) than of either Whites (41.1 percent) or Blacks (38 percent) enroll in college on a part-time basis (Dearman and Plisko, 1980, p. 112). Given the low high school graduation rates of Puerto Ricans, the lowest of these estimates, the CIRP mean for 1971-73, is most plausible, though even it seems too high. In summary, about half of all Puerto Ricans who graduate from high school enter college directly.

College Completion

Most sources of information on college completion rates report data for the general category "Hispanic" only. For instance, according to the National Longitudinal Study, 13 percent of the Hispanics who entered college in 1972 (compared with 34 percent of the Whites and 24 percent of the Blacks) had received the baccalaureate four years later, in 1976; an additional 44 percent had completed two or more years of college; and 43 percent (compared with 28 percent of the Whites and 36 percent of the Blacks) had completed less than two years of college. These rates cannot be taken as definitive, however, since many students take more than the "normal" four years to complete college. If these students were followed up for a longer period of time, baccalaureate completion rates would probably be higher.

This point is confirmed by a study of the effects of CUNY's open-admissions policy on various ethnic groups (Lavin, Alba, and Silberstein, 1979), which found that, of those Hispanics who were "regular-admissions" students and who attended senior colleges in the CUNY system, about one-fifth (19 percent) of those in the 1971 freshman class and one-third (34 percent) of those in the 1970 freshman class had graduated by 1975. For "open-admissions" Hispanics (i.e., those with lower high school grades who would not have been admitted to a senior institution prior to the establishment of the open-admissions policy), the proportions graduating by 1975 were 7 percent of the 1971 freshman class and 19 percent of the 1970 freshman class. Thus, completion rates rose considerably between the fourth and the fifth year after college entry. Moreover, substantial proportions of both regular-admissions and open-admissions Hispanics from both cohorts were still in school and so may have completed the baccalaureate after 1975. The authors explain: "Because CUNY students were so often registered for remedial work offering little or no credit, and because so many of them had to work while attending school, it is to be expected that a substantial proportion of them would require more than the traditional 4-year period to graduate" (Lavin, Alba, and Silberstein, 1979, p. 83). It should be pointed out that an estimated 90 percent of the Hispanics attending CUNY are Puerto Rican and that Hispanics had lower graduation rates than did the other groups studied (Jews, Catholics, and Blacks).

The Current Population Surveys of the Bureau of the Census offer another approach to estimating college completion rates. Using data from surveys conducted from 1974 through 1979, Table 10 indicates the proportion of Hispanics in the 25-29-year-old population who had attended college and the proportion who had completed college; from these figures, one can derive college completion rates for each year, as well as a mean college completion rate for all six years (see fourth row of Table 10). According to this source, then, about one-third of all Hispanics in this age group who had attended college received the baccalaureate.

Specific data on the baccalaureate completion rates of Puerto Ricans come from the present project, which involved a nine year follow-up survey of a national sample of students who had entered college as freshmen in 1971. (The

Table 10

College Attendance, College Completion, and Graduate/Professional School Attendance of 25-29-Year-Old Hispanics

(percentages)

	1974	1975	1976	1977	1978	1979	Mean
Attended college	20	21	21	24	25	25	22.7
Completed college	6	9	7	7	10	7	7.7
Attended graduate/ professional school	1.6	3.0	2.8	2.8	3.6	2.3	2.7
College completion rate	30	43	33	29	40	28	34
Graduate/professional school entry rate	26	33	40	40	36	33	35

Source: U.S. Bureau of the Census, March Current Population Surveys, 1974-1979.

follow-up procedures used are described in Chapters 1 and 9; see also Astin, 1982, Appendix A.) Baccalaureate completion rates, by freshman institutional type, were as follows:

Freshman Institution	Completion Rate
University	70.3
Four-year college	60.1
Two-year college	27.0
All institutions	41.8

Thus, slightly over two in five of the Puerto Ricans who entered college in 1971 had earned a baccalaureate by the time of the follow-up survey. This college completion rate is almost identical to that found for Chicanos (39.7 percent) but lower than that for Whites (55.6 percent) or Blacks (50.9 percent).

Indeed, all estimates show Hispanics to have lower college completion rates than Whites or Blacks. This difference may be attributable in part to their greater tendency to enroll in community colleges or in public four-year institutions that resemble community colleges (i.e., large, urban, "commuter" institutions). (See Chapter 8 for a further discussion of the institutional characteristics related to educational attainment among Puerto Ricans.)

Participation in Advanced Training

At the graduate/professional school level, data are available only for the general category "Hispanic." The third row of Table 10 shows the proportions of all 25-29-year-old Hispanics who reported, in the Current Population Surveys, that they had attended graduate or professional school; the last row indicates the rate. According to these data, then, about one-third of the Hispanics who completed college during the 1970s entered advanced training. This rate is roughly the same as the rate for Whites and for Blacks.

Other data sources yield higher rates for all racial/ethnic groups. Table 11 presents Office for Civil Rights data for Puerto Ricans and, in the interests of comparison, for Whites. Puerto Ricans constituted .42 percent of baccalaureate recipients in 1975-76 and .34 percent of first-year graduate enrollments the following fall. Thus, the graduate entry rate of Puerto Ricans who had completed college was 57.5 percent, compared with a rate of 67.4 percent among white college graduates. It is not clear why graduate entry rates derived from OCR data are so much higher for all racial/ethnic groups than rates derived from CPS data. What does seem clear is that the juncture between college completion and entry to graduate/professional school does not constitute a major leakage point for minorities--or at least no more so than for Whites.

Table 11 also shows the numbers and proportions of Puerto Ricans and Whites who received graduate degrees in 1978-79 (Dearman and Plisko, 1981). Puerto Ricans accounted for .30 percent of the master's degrees and .23 percent of the doctorates awarded that year. Thus, about two in five of the Puerto Ricans who enter graduate school successfully complete an academic degree, compared with about half of the Whites. The completion rate for Puerto Ricans may well be an overestimate, since it rests on the assumption that Puerto Ricans account for the same proportion of Hispanics at the master's degree and doctorate levels as at the first-year graduate level; this assumption is probably unwarranted, given the higher educational attainment rates of other subgroups of Hispanics. The reader should also bear in mind that Table 11 understates the time lag between entry to graduate school (fall 1976) and attainment of a graduate degree (1978-70); obviously, most students take longer than two or three years to earn a doctorate. Taking these considerations into account, it is clear that Hispanics are more likely than Whites to drop out of graduate school.

Table 11

Puerto Rican and White Participation in Advanced Training

	Puerto Ricans[a]		Whites		Total[b]	
	N	%	N	%	N	%
Baccalaureate recipients, 1975-76	3,933	.42	811,772	87.6	927,085	100
First-year graduate enrollments, Fall 1976	2,263	.34	547,108	84.3	649,125	100
Master's degree recipients, 1978-79	832	.30	249,051	88.8	280,482	100
Doctorate recipients, 1978-79	66	.23	26,128	90.9	28,774	100
Total graduate degree recipients, 1978-79	898	.29	275,179	89.0	309,256	100
Graduate entry rate	57.5		67.4		70.0	
Graduate completion rate	39.7		50.3		47.6	

Sources: Office for Civil Rights, 1978; Dearman and Plisko, 1981.

[a] Represents 15 percent of figures for "Hispanics."

[b] Includes nonresident aliens.

Table 12 summarizes, for all the racial/ethnic groups, estimated rates of graduate and advanced professional degree attainment, based on data from a variety of sources. In the case of medicine, the source was the American Medical Association's annual reports on Medical Education in the United States, which reports data on medical degrees awarded by race/ethnicity; completion rates were computed by comparing degrees awarded in six academic years (1974-75 through 1979-80) with first-year medical school enrollments from 1971-72 through 1976-77. In the case of law, the only information available from the Office of the Consultant on Legal Education to the American Bar Association was the general estimate that 77.4 percent of minority students who enroll in law school complete a law degree, so this was the rate used for all four of the minority groups under consideration. The degree completion rates for law and medicine (which account for about 48 percent and 41 percent, respectively, of minority enrollments in all advanced professional schools) were used to compute mean completion rates for the remaining 11 percent of minority professional enrollments (third column of Table 12). To arrive at estimated rates of advanced professional degree attainment in all fields for each minority group, the appropriate completion rate was multiplied by the actual Fall 1976 minority enrollment in each professional field, as reported by the National Center for Education Statistics (fourth column of Table 12). The fifth column shows the graduate degree completion rates discussed earlier. The last column shows estimates of degree attainment rates in all graduate and advanced professional fields.

The point to be noted is that Puerto Ricans generally have lower completion rates than do other racial/ethnic groups. For instance, slightly less than three in four of those Puerto Ricans who enter medical school, compared with 99 percent of the Whites, actually attain a medical degree. Of all

Table 12

Estimates of Graduate and Advanced Professional Degree Completion Rates

Racial/Ethnic Group	Medicine	Law	Other Advanced Professional Fields	All Advanced Professional Fields	Graduate Fields	Total: All Fields
Whites	99.3	85.1	92.2	91.1	50.3	58.7
Blacks	83.1	77.4	80.3	80.0	49.8	54.5
Chicanos	88.3	77.4	82.9	82.4	39.7	48.8
Puerto Ricans	73.3	77.4	75.4	75.5	39.7	46.9
American Indians	81.7	77.4	80.0	79.1	44.5	52.1

Sources: *Journal of the American Medical Association* annual reports on medical education in the United States; Office for Civil Rights, 1978; Dearman and Plisko, 1981; Association of American Medical Colleges; American Bar Association.

Puerto Ricans who enter advanced training, less than half (46.9 percent) attain a degree; the figure is slightly lower than that for Chicanos (48.8 percent) and substantially lower than the rate for Blacks (54.5 percent) and Whites (58.7 percent).

Summary

By combining the data reported in this section, one can chart the course of each racial/ethnic group through the educational pipeline (Table 13). The reader should bear in mind that the estimates for Puerto Ricans are subject to several sources of error. First, because data are often reported only for the general category "Hispanic," we have had to make the simplifying assumption that Puerto Ricans account for 15 percent of these figures (i.e., their estimated proportion in the Hispanic population on the U.S. Mainland); however, this assumption may be unwarranted, given what is known about the higher educational attainment of subgroups of Hispanics other than Chicanos and Puerto Ricans. Thus, the figures shown in Table 13 are likely to be overestimates. Second, in those cases where data are reported separately for Puerto Ricans, the sample size involved is often very small and thus subject to error. Third, in view of the movement of Puerto Ricans both to and from the Island and within the continental U.S., and the consequent movement of Puerto Rican children from one school system to another, or from one school to another within the same urban public school system, the high school graduation rate may well be a gross overestimate. Finally, completion rates at higher levels may be inflated by the relatively smooth educational progress of those more affluent and well-prepared Puerto Ricans who travel to the Mainland for the express purpose of attending college or graduate/professional school (see Chapters 5 and 7). With these caveats in mind, one can draw the following conclusions:

Table 13

The Educational Pipeline for Minorities

(percentages)

Racial/Ethnic Group	First Grade	High School Graduation	Entry to College	Completion of College	Entry to Graduate/ Professional School	Completion of Graduate/ Professional School
Whites	100	83	38	23	14	8
Blacks	100	72	29	12	8	4
Chicanos	100	55	22	7	4	2
Puerto Ricans	100	55	25	7	4	2
American Indians	100	55	17	6	4	2

1. Puerto Ricans, like other racial/ethnic minorities, are increasingly underrepresented at each higher level of the educational pipeline. They--like Chicanos and American Indians--are more severely underrepresented than are Blacks.

2. The most important factor in the underrepresentation of Puerto Ricans in the higher education system is their high rate of attrition from high school. The second most important factor is their greater-than-average attrition rate from college.

3. The "leakage" of Puerto Ricans from the educational pipeline at the transition point between high school graduation and college entry seems smaller than is the case with the other three minority groups under consideration.

Representation by Major Field

There are two ways of looking at the representation of Puerto Ricans in specific academic fields: first, by examining the proportion of Puerto Ricans among all students in a specific field at different levels (freshman choice, baccalaureate attainment, graduate/professional school enrollment, master's degree attainment, doctorate/professional degree attainment); and second, by examining their distribution among major fields at each level, as compared with the distribution of Whites. The latter approach can to some extent be regarded as their relative preferences for different fields.

Ten categories of major fields were defined. Each was selected because it is a prerequisite for a high-level career, because it is chosen by a large proportion of students, or because it fulfills both these criteria. These ten categories, which together accounted for about 90 percent of the baccalaureates awarded in the United States in 1978-79, were as follows: allied health; arts and humanities; biological science; business; education; engineering; prelaw; premedicine; predentistry, and pre-veterinary medicine; physical sciences and mathematics; and social sciences.

Information on the major field preferences and career choices of entering college freshmen came from the Cooperative Institutional Research Program (CIRP), which identifies Puerto Ricans and Chicanos separately. In 1971, Puerto Ricans were estimated to account for .6 percent of the entering freshman class. Data on baccalaureates, master's degrees, and doctorates awarded came from two publications of the National Center for Education Statistics (NCES)--Data on Earned Degrees Conferred from Institutions of Higher Education by Race, Ethnicity, and Sex, Academic Year 1975-1976 (2 vols., 1979) and Racial, Ethnic and Sex Enrollment Data from Institutions of Higher Education: Fall 1976 (1978)--as well as from unpublished preliminary tabulations provided by NCES on degrees earned in 1978-79. Unfortunately, NCES collects and reports data only for the general category "Hispanic" rather than for the different subgroups; therefore, it was assumed that 15 percent of the degrees and graduate enrollments in this category are accounted for by Puerto Ricans. The same caveat applies to the data on law school and medical school enrollments, which were provided by the American Bar Association and the American Association of Medical Colleges. Thus, the discussion of Puerto Rican representation in different fields beyond the freshman level is highly speculative, as is underscored by the differences between Chicanos and Puerto Ricans in their freshman preferences for various fields (see Table 15).

Table 14 shows the proportions of Puerto Ricans among students in different fields at different levels. As one would expect, given the loss of Puerto Ricans at several critical leakage points, the underrepresentation tends to be more severe at each higher level of the pipeline. Thus, in 1971, Puerto Ricans were best represented among freshmen planning to major in social science (1 percent), but they constituted only .5 percent of those receiving the bac-

Table 14

Representation of Puerto Ricans in Ten Major Fields at Different Levels

Major Field	Entering Freshmen (Fall 1971)	Baccalaureate Recipients (1975-76)	Graduate/ Professional Enrollments (Fall 1976)	Master's Degree Recipients (1978-79)	Doctorate/ Professional Degree Recipients (1978-79)
Allied health	0.4	0.3	--	0.3	0.0
Arts and humanities	0.5	0.5	--	0.4	0.4
Biological science	0.7	0.4	0.2	0.3	0.2
Business	0.4	0.4	0.2	0.2	0.1
Education	0.7	0.4	--	0.4	0.3
Engineering	0.7	0.4	0.3	0.3	0.2
Law	0.8	--	0.4	--	0.4
Medicine, dentistry, veterinary medicine	0.7	--	0.4	--	0.4
Physical science, mathematics	0.2	0.3	--	0.2	0.1
Social science	1.0	0.5	--	0.5	0.3

Sources: Cooperative Institutional Research Program; National Center for Education Statistics.

Notes: With the exception of the figures in the first column, figures for Puerto Ricans represent 15 percent of figures for all Hispanics.

calaureate in social sciences four years later; .5 percent of those receiving the master's degree in 1978-79; and .3 percent of those earning a doctorate in social science in 1978-79. They accounted for .8 percent of those planning to major in prelaw, and .7 percent of those planning to major in premedicine/predentistry; however, they constituted only .4 percent of the fall 1976 enrollments in each of these professional fields. It should be noted, however, that they also constituted .4 percent of those earning law and medical/dental degrees in 1978-79; the implication is that Puerto Ricans are no more likely than others to drop out of law school or medical/dental school once they have enrolled.

Other freshman preferences in which Puerto Ricans are fairly well represented, relative to their proportions among all entering freshmen in 1971, were biological sciences (.7 percent), education (.7 percent), and engineering (.7 percent). On the other hand, only .4 percent of the freshmen naming allied health fields as their probably major, .5 percent of those naming arts and humanities, .4 percent of those naming business, and .2 percent of those choosing physical science or mathematics were Puerto Rican.

At the baccalaureate level, Puerto Ricans were best represented among those receiving degrees in arts and humanities (.5 percent) and social sciences (.5 percent); at the master's level, among those in social sciences (.5 percent), arts and humanities (.4 percent), and education (.4 percent); and at the doctorate level, among those in arts and humanities (.4 percent). Thus, their proportionate representation in the arts and humanities remained fairly constant; between freshman choice and doctorate attainment, the representation of Puerto Ricans declined most sharply in the biological sciences, business, and engineering; and they were consistently underrepresented in the physical sciences and mathematics.

Table 15 compares the freshman major field preferences of Puerto Ricans with those of Chicanos and Whites; at subsequent levels, the distribution of Hispanics among eight major fields is compared with that of Whites. Data are presented separately for men and women, as well as for the total group.

Social science was the most common major field preference of Puerto Rican freshmen in 1971 (named by one-fifth of the total group); it ranked second among Chicanos (12.8 percent) and among Whites (13.3 percent). Arts and humanities ranked second among Puerto Ricans but first among Whites and third among Chicanos. Education was the third most popular choice among Puerto Ricans; it ranked first among Chicanos but only fifth among Whites. All three of these major fields were more popular among women than among men (though Chicana freshmen were only slightly more likely than were their male counterparts to name social science as their probable major), with sex differences being most pronounced among Whites. In addition, female freshmen in all three racial/ethnic groups were more likely than were men to say they planned to major in allied health professions. Conversely, male freshmen in all three groups were much more likely than women to say that they planned to major in business or engineering. The least popular major field choices among all three racial/ethnic groups were biological science and physical science/mathematics. The most notable differences between Puerto Ricans and Chicanos at the freshman level is that the Puerto Ricans were more likely to prefer biological science and social science, whereas Chicanos more frequently named allied health, business, and education as their probably majors.

At the baccalaureate level, differences in the proportions of Hispanics and of Whites earning their degrees in various fields are slight, except that Hispanics were somewhat more likely to have earned a bachelor's degree in social

Table 15

Distribution of Puerto Ricans, Chicanos, and Whites Among Major Fields at Different Levels, by Sex

(percentages)

Major Field	Entering Freshmen (Fall 1971)			Baccalaureate Recipients (1975-76)		Graduate/ Professional Enrollments (Fall 1976)		Master's Degree Recipients (1978-79)		Graduate/ Professional Degree Recipients (1978-79)	
	Puerto Ricans	Chicanos	Whites	Hispanics	Whites	Hispanics	Whites	Hispanics	Whites	Hispanics	Whites
All students:											
Allied health	6.2	9.2	9.6	4.8	6.0	--	--	5.2	5.4	0.9	2.3
Arts and humanities	11.0	12.1	13.6	16.3	14.8	--	--	8.9	8.2	17.9	11.8
Biological science	4.2	1.3	3.5	5.7	6.0	2.5	4.0	1.8	2.4	7.5	11.4
Business	7.0	11.5	11.5	15.2	15.4	9.2	13.9	11.6	16.7	1.1	2.5
Education	10.3	13.7	9.9	17.0	16.7	--	--	43.3	37.7	30.0	24.2
Engineering	8.1	8.0	7.1	4.7	4.8	3.3	4.4	3.3	4.0	4.9	5.4
Physical science	2.0	1.7	5.1	2.7	4.1	--	--	1.6	2.7	6.8	11.2
Social science	20.1	12.8	13.3	26.5	22.2	--	--	18.1	13.5	23.0	20.5
Men:											
Allied health	2.7	4.4	2.8	2.2	2.3	--	--	3.0	3.1	0.7	1.9
Arts and humanities	9.0	9.3	9.6	12.0	11.4	--	--	7.2	7.0	14.2	9.7
Biological science	4.1	1.6	4.3	6.1	7.2	2.8	5.0	1.9	3.0	7.6	12.2
Business	9.3	12.9	17.0	21.8	23.1	13.8	20.7	19.5	27.1	1.3	3.1
Education	3.7	10.8	4.5	10.1	8.2	--	--	32.7	23.6	28.5	19.8
Engineering	14.2	15.2	12.8	8.6	8.5	5.7	7.6	6.5	7.6	7.0	7.3
Physical science	2.5	2.1	6.2	3.6	5.4	--	--	2.3	4.1	8.6	14.0
Social science	16.3	12.7	11.3	28.4	23.5	--	--	19.6	14.4	21.9	19.4
Women:											
Allied health	10.9	14.5	17.7	7.6	10.4	--	--	7.4	7.8	1.3	3.0
Arts and humanities	13.7	15.3	18.3	20.9	18.8	--	--	10.5	9.4	25.2	16.8
Biological science	4.3	1.0	2.5	5.2	4.5	2.0	2.8	1.6	1.7	7.3	9.7
Business	3.8	9.9	4.8	8.0	6.2	3.7	5.7	4.1	6.4	0.0	1.2
Education	12.4	17.0	16.4	24.4	26.9	--	--	53.4	51.6	33.1	34.8
Engineering	0.0	0.1	0.3	0.4	0.3	0.5	0.6	0.3	0.6	0.0	0.7
Physical science	1.3	1.3	3.7	1.8	2.6	--	--	0.8	1.3	3.3	4.6
Social science	25.0	12.9	15.7	24.4	20.6	--	--	16.6	12.5	25.2	22.9

Sources: Cooperative Institutional Research Program; National Center for Education Statistics.

sciences (26.5 percent, compared with 22 percent of Whites). Social science, education, business, and arts and humanities were the most popular choices at this level, as well as at the freshman level, for both groups.

Clearer differences between the two racial/ethnic groups, especially among men, emerge at the master's level: Thus, one-third of Hispanic men, compared with 24 percent of white men, earned a master's degree in education in 1978-70; comparable figures for women were 53.4 percent for Hispanics and 52 percent for Whites. On the other hand, 27.1 percent of white men, but only 19.5 percent of Hispanic men, earned a master's degree in business; only 4.1 percent of Hispanic women and 6.4 percent of white women earned the M.B.A. Hispanics of both sexes were more likely than Whites to get a master's degree in social science.

At the doctorate level, these differences are maintained. Hispanics were more likely than Whites to earn the doctorate in education, social science, and the arts and humanities, whereas Whites were more likely to earn the degree in biological science and physical science/mathematics.

In summary, Hispanics--including Puerto Ricans--seem most severely underrepresented in the natural sciences at all levels and in business at the master's level. The few who earn advanced degrees are disproportionately concentrated in education, social science, and arts and humanities--fields leading to careers which carry less prestige and influence and in which demand is currently low.

An examination of the test scores of high school seniors (see Astin, 1982, Chapter 3) suggests that the highest-scoring students are attracted to physical science/mathematics, engineering, and biological science, whereas the lowest-scoring tend to prefer education, arts and humanities, and business. The implication is that the relative overrepresentation of minorities, including Hispanics, in these fields is in part attributable to their relatively poor academic preparation at the secondary level.

Recent Trends

Although minorities, including Puerto Ricans, are increasingly underrepresented at each higher level of the educational pipeline, and although their proportions are especially small in the sciences and engineering, the last two decades have witnessed some improvements in minority representation at all levels of the educational pipeline and in virtually all fields. These increases are in large part attributable to the civil rights movement of the late 1950s and the 1960s, to the Civil Rights Act of 1964, and to the initiation during the 1960s of a number of social programs designed explicitly to increase minority enrollments. This section summarizes what is known about trends in Puerto Rican representation in higher education.

By Level

No data are available on trends in high school completion rates for Puerto Ricans. The data available on college attendance is somewhat contradictory. According to the Bureau of the Census, college attendance rates among 18-24-year-old Hispanics dropped slightly between 1970 and 1977, from 18.9 percent of that age group to 17 percent. On the other hand, the data presented earlier in Table 10 shows that, among 25-29-year-old Hispanics, the proportions attending college increased slightly from one-fifth in 1974 to one-fourth in 1979. In addition, data from the Cooperative Institutional Research Program (CIRP) shows that the proportions of Puerto Ricans among all first-time, full-time freshmen increased steadily, from .2 percent in 1971 to .9 percent in 1978; it has remained stable at the .9 percent level since that time.

Table 10 also shows trends in college completion rates among 25-29-year-old Hispanics: from 6 percent of that age group in 1974 to a high of 10 percent in 1978; in 1979, however, the proportion reporting they had completed college dropped, to only 7 percent. According to data from the National Center for Education Statistics, Puerto Ricans (assumed to constitute 15 percent of the "Hispanic" group) accounted for .48 percent of the baccalaureates awarded in 1975-76 and for .49 percent of the baccalaureates awarded in 1978-79, an increase of 15 percent.

Similarly, Table 10 indicates some increase in the proportions of 25-29-year-old Hispanics who attended graduate or professional school: from only 1.6 percent in 1974 to a peak of 3.6 percent in 1978, and then a decline to 2.3 percent in 1979.

Data on the race/ethnicity of doctorate recipients come from the annual surveys of the National Academy of Sciences (National Research Council). According to this source, Puerto Ricans accounted for only .16 percent of all doctorate-recipients in 1973 but for .25 percent in 1976. Since 1977, NAS has collected and reported data only for the general category "Hispanics"; applying the 15 percent rule-of-thumb to these data, one finds that Puerto Ricans constituted .27 percent of doctorate-recipients in 1979. Thus, there seems to have been some slight improvement during the 1970s in the representation of Puerto Ricans among doctorate recipients.

By Field

Table 16 shows trends in Puerto Rican enrollments in medical and law school. In 1969-70, Puerto Ricans accounted for only .1 percent of all first-year medical school enrollments and for only .1 percent of total law school enrollments. The proportions rose during the decade, leveling off in the mid-1970s at about .5 percent of first-year medical school enrollments and peaking at .4 percent of total law school enrollments in 1977-78.

Unfortunately, no data are available on trends in Puerto Rican representation in other major fields at the baccalaureate or higher level. However,

Table 16

Trends in the Representation of Puerto Ricans in Medical and Law School, 1969-80

Year	Percentage of Puerto Ricans Among: First-year Enrollments in Medical School	Total Enrollments in Law School
1969-70	0.1	0.1
1970-71	0.2	0.1
1971-72	0.3	0.1
1972-73	0.3	0.2
1973-74	0.4	0.2
1974-75	0.5	0.3
1975-76	0.5	0.3
1976-77	0.5	0.3
1977-78	0.4	0.4
1978-79	0.5	---
1979-80	0.5	---

Sources: Association of American Medical Colleges; American Bar Association.

Chapter 7, which deals with trends in the characteristics of entering freshmen, discusses changes in freshman preferences for different fields and in freshman degree aspirations.

In conclusion, whatever gains minorities, including Puerto Ricans, have made in higher education are most apparent in the early 1970s. Since the mid-1970s, their proportions seem to have stabilized.

CHAPTER 7

TRENDS IN THE CHARACTERISTICS OF PUERTO RICAN FRESHMEN

This chapter discusses trends in the characteristics of Puerto Ricans who entered college as freshmen during the 1970s. Information on these students comes from the freshman surveys of the Cooperative Institutional Research Program (CIRP) for the years 1971, 1975, and 1979.

This data base has two major limitations. The first involves sample size. Though the number of institutions participating in the CIRP varies from year to year, generally they constitute about one-fifth of all eligible higher education institutions listed in the U.S. Office of Education's annual Education Directory. (An institution is defined as eligible if it was functioning at the time of the freshman survey and had a freshman class of at least 30 members.) Universities--especially private universities--and private four-year colleges are overrepresented among CIRP participants, relative to their proportions in the total institutional population, whereas two-year colleges--especially public two-year colleges--are underrepresented. Data from respondents at participating institutions are weighted so as to be representative of all entering freshmen for a given year. (For a more detailed explanation of the stratification design and weighting procedures used in the CIRP, see Astin, King, and Richardson, 1980). In the national norms report for any given year, Puerto Ricans account for a very small proportion of all freshmen (.2 percent in 1971, .7 percent in 1975, and 1 percent in 1979). Although some institutions with fairly substantial Puerto Rican enrollments have been long-time participants in the CIRP (e.g., the City University of New York's City College, John Jay College, and Baruch College), the reader should bear in mind that the actual number of Puerto Ricans completing the freshman survey each year is small, making the reported figures subject to considerable error.

The second limitation is that these are aggregate data on Puerto Ricans and make no distinction between those freshmen who were raised and attended high school on the Island and who came to the Mainland for the express purpose of attending college and those who were raised and attended school in the continental U.S. As was pointed out in Chapter 5, the former tend to come from higher socioeconomic backgrounds and to be better prepared educationally than the latter; aggregating data on these two groups obscures the disadvantagement of those Puerto Ricans who attended school on the Mainland. It should be noted that 7.8 percent of the 1971 Puerto Rican freshmen, 15 percent in 1975, and 11 percent in 1979 said that the distance from their colleges to their homes was more than 500 miles; it is probably safe to assume that most of these were graduates of Island high schools.

This chapter compares trends among Puerto Rican freshmen with trends among freshmen-in-general in order to see whether any changes that occurred among Puerto Ricans were general or were to some extent unique. Where relevant, data are presented separately for men and women in the Puerto Rican sample.

Socioeconomic Background

As one would expect, given the soaring inflation rate during the 1970s, the parental incomes reported by students-in-general rose during the decade (Table 17). For instance, 19 percent of the 1971 entering

Table 17

Trends in Parental Income for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)

Parental Income	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
Less than $4,000	5.3	6.5	4.1	19.3	21.8	19.4	17.7	20.6	15.4	21.8	23.8	23.9
$4,000-5,999	6.7	4.5	3.7	21.7	17.4	15.2	23.6	15.7	13.3	18.6	20.1	17.3
$6,000-9,999	22.4	11.7	8.1	30.5	22.2	18.2	28.7	24.0	17.7	33.1	19.2	18.8
$10,000-14,999	32.3	25.4	15.2	20.4	18.2	20.1	22.7	17.0	23.2	16.6	20.1	16.5
$15,000-19,999	14.3	17.4	13.9	3.0	7.9	7.5	1.3	8.7	8.8	5.8	6.7	6.1
Over $20,000	19.0	34.4	55.0	5.2	12.0	19.5	6.0	14.2	21.6	3.9	10.1	17.4

freshmen came from families with incomes of at least $20,000; by 1979, the figure had swelled to 55 percent, a 189 percent proportionate increase. Though the proportionate increase was even higher among Puerto Ricans (275 percent), very few came from families at that level of affluence: only 5.2 percent in 1971 and 19.5 percent in 1979.

The proportion of Puerto Ricans who reported parental incomes ranging from $4,000 to $14,999 fell from 73 percent to 54 percent over the 1971-79 period; the analogous drop for all freshmen was from 61 percent to 21 percent. There was virtually no change, however, in the proportion of Puerto Ricans coming from the lowest income levels: Both in 1971 and in 1979, close to one in five Puerto Rican freshmen (from four to five times the proportion of all freshmen) came from families with incomes of under $4,000 a year. In short, despite the general upswing in parental incomes, a substantial number of Puerto Ricans entering college continue to come from families in severely straitened financial circumstances. Women were more likely than men to come from very low-income families, and the increase in the proportions coming from higher-income families was smaller for women than for men.

The same picture emerges when we look at trends in father's education (Table 18). Close to four in five Puerto Rican freshmen reported that their fathers had not gone beyond high school; indeed, close to three in five said their fathers had not even completed high school. Neither of these figures changed much over the decade. By way of contrast, 56 percent of 1971 freshmen-in-general, and 46 percent of 1979 freshmen-in-general, indicated that their fathers had no more than a high school education. Thus, the gap between Puerto Ricans and other students widened over the nine-year period. The proportions of Puerto Ricans reporting

Table 18

Trends in Father's Education for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)

				Puerto Rican Freshmen								
	All Freshmen			Total			Men			Women		
Highest Level	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
Less than high school diploma	24.6	21.0	18.3	59.5	57.6	57.4	62.2	57.2	50.6	55.3	58.0	64.6
High school diploma	30.9	28.9	28.0	20.0	19.3	21.6	17.7	17.6	26.3	23.5	21.9	16.7
Some college	16.9	17.8	13.4	9.6	9.2	7.2	12.0	10.6	7.2	5.8	7.2	7.1
Baccalaureate	18.4	20.0	19.4	5.2	7.5	8.4	4.5	8.3	9.9	6.4	6.5	6.8
Advanced degree	9.3	12.3	14.2	5.7	6.3	5.4	3.6	6.3	5.9	9.0	6.5	4.8

that their fathers had a baccalaureate or an advanced degree increased slightly: from 11 percent in 1971 to 14 percent in 1975 and 1979. Comparable figures for all freshmen were 28 percent in 1971, 32 percent in 1975, and 34 percent in 1979. The increase in father's educational level among Puerto Ricans was accounted for almost entirely by the men; the proportions of Puerto Rican women saying that their fathers had a baccalaureate or better actually dropped over the period, from 15 percent in 1971 to 12 percent in 1979.

Trends among Puerto Ricans with respect to mother's education roughly paralleled general trends (Table 19). The proportions of Puerto Ricans reporting that their mothers had not gone beyond high school dropped from 84 percent in 1971 to 80 percent in 1979, whereas the proportions reporting that their mothers had at least some college education grew from 16 percent in 1971 to 20 percent in 1979. Nonetheless, in 1979, Puerto Ricans were less than half as likely as freshmen-in-general to say that their mothers had a baccalaureate or an advanced degree (9.4 percent versus 21 percent).

Thus, the socioeconomic condition of Puerto Ricans going to college improved only slightly, if at all, during the 1970s. They remain a heavily disadvantaged group relative to all students. Indeed, on one measure--father's educational level--the gap between Puerto Ricans and freshmen-in-general widened between 1971 and 1979.

High School Background

As Table 20 indicates the widely publicized phenomenon of grade inflation during the 1970s did not seem to operate among Puerto Ricans: Although the proportion making A averages in high school rose slightly between 1971 and 1979 (from 10.8 percent to 12.2 percent), so did the

Table 19

Trends in Mother's Education for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)

Highest Level	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
Less than high school diploma	18.7	23.0	14.3	63.4	61.6	55.2	59.8	61.7	52.6	68.8	61.8	57.7
High school diploma	45.0	47.1	41.0	20.6	21.7	25.2	25.6	21.1	27.5	13.1	22.5	22.9
Some college	17.9	16.5	14.4	8.2	6.6	10.2	6.8	6.2	10.1	10.4	7.3	10.4
Baccalaureate	15.2	10.3	15.2	5.1	7.0	7.1	4.6	7.5	7.1	5.9	6.3	7.1
Advanced degree	3.1	3.03	5.8	2.6	3.0	2.3	3.2	3.1	2.7	1.7	2.2	2.0

Table 20

Trends in High School Grade Average for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)

High School Grade Average	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
A	15.0	18.3	20.7	10.8	8.7	12.2	8.9	5.9	10.0	13.7	13.0	14.6
B	58.8	60.3	60.0	66.1	62.5	60.5	61.4	59.6	58.0	73.6	66.3	63.1
C or D	26.1	21.3	19.3	23.1	28.8	27.1	29.7	34.5	31.9	12.6	20.6	22.3

proportion whose high school grade average was no higher than C+ (from 23 percent to 27 percent). Among all entering freshmen in 1971, slightly under three in four reported high school grades of A or B; in 1979, the figure had risen to four in five. Among Puerto Rican freshmen, however, 77 percent in 1971, but only 73 percent in 1979, made A or B averages in high school. The proportionate drop was greater among Puerto Rican women than among their male counterparts, even though women consistently made better grades than men in all racial/ethnic groups.

Despite their somewhat lower high school grades, Puerto Ricans entering college in 1979 were much less likely than those entering college in 1971 to feel that they needed remedial work in various subjects (Table 21). The same trend is found among students-in-general. For instance, over half of the 1971 Puerto Rican freshmen, but only 8.8 percent of the 1979 Puerto Rican freshmen, said they needed remedial work in mathematics. The proportions believing they needed remedial work in English and in reading also dropped substantially over the eight-year period. On the other hand, the proportions of Puerto Ricans feeling a need for remediation in foreign language rose slightly (from 10.3 percent in 1971 to 12.6 percent in 1979), and there was also a small increase in those needing remediation in social studies.

Educational Plans and Expectations

The degree aspirations of students entering college, including Puerto Ricans, rose over the decade of the 1970s (Table 22). For instance, 17 percent of all 1971 freshmen, and 21 percent of Puerto Ricans, said they planned to get an associate degree or less; by 1979, the figures had dropped to 9 percent for all students and 7 percent for Puerto Ricans.

Table 21

Trends in Perceived Need for Remedial Work for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1979

(percentages)

Subject in Which Remedial Work Will Be Needed	All Freshmen		Puerto Rican Freshmen					
			Total		Men		Women	
	1971	1979	1971	1979	1971	1979	1971	1979
English	16.3	11.8	28.3	10.8	32.2	10.1	22.2	11.5
Reading	10.6	5.2	23.1	9.1	23.0	8.8	23.1	9.4
Mathematics	36.0	21.9	52.2	8.8	50.6	8.3	54.8	9.2
Social studies	3.8	2.7	8.0	9.4	7.0	7.3	9.6	11.6
Science	21.0	9.3	29.0	20.7	25.6	16.3	34.3	25.3
Foreign language	20.8	8.7	10.3	12.6	11.9	13.0	7.7	12.1

Table 22

Trends in Degree Aspirations for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)

Highest Degree Planned	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
None	6.5	3.7	1.8	8.7	5.8	1.3	10.0	5.8	1.4	6.8	5.7	1.3
Associate	10.2	7.8	7.3	12.7	9.8	5.9	10.9	6.8	7.7	15.6	12.7	4.0
Baccalaureate	37.5	34.7	36.5	27.3	30.6	30.5	25.7	32.5	30.6	29.7	27.7	30.4
Master's	25.9	28.3	32.3	27.3	23.6	30.0	26.4	21.8	30.9	28.7	26.5	29.0
Doctorate (PhD, EdD)	7.6	9.1	8.7	6.7	8.0	10.3	7.6	7.8	9.2	5.3	8.4	11.5
Medical (MD, DDS, DO, DVM)	4.9	7.3	6.2	7.6	6.0	6.9	7.3	6.9	5.4	8.0	4.7	8.4
Law (LLB, JD)	3.6	4.8	4.4	6.0	10.3	9.0	7.9	11.0	9.8	2.9	9.3	10.2
Divinity (BD, MDiv)	0.3	0.6	0.6	0.4	1.6	1.9	0.7	0.9	2.3	0.0	2.6	1.5
Other	3.5	3.8	2.4	3.3	4.2	4.2	3.5	5.3	4.7	3.0	2.4	3.6

The proportions of Puerto Ricans aspiring to the baccalaureate increased slightly (from 27 percent to 30 percent), while the comparable figures for freshmen-in-general declined slightly (from 38 percent to 37 percent). Trends with respect to graduate degrees (the master's or the doctorate) were almost identical: from 34 percent of both groups in 1971 to 40 percent of Puerto Ricans and 41 percent of all freshmen in 1979. Puerto Ricans were, however, more ambitious with respect to professional degrees: 14 percent in 1971 (compared with 8.8 percent of all freshmen) and 18 percent in 1979 (compared with 11 percent of all freshmen) planned to get degrees in medicine, law, or divinity. These elevated aspirations were most evident among Puerto Rican women: The proportions aspiring to PhDs more than doubled between 1971 and 1979 (from 5.3 percent to 11.5 percent), and the proportions aspiring to law degrees tripled (from 2.9 percent to 10.2 percent). The proportion of Puerto Rican men planning to get a medical degree fell slightly.

Looking just at Puerto Rican trends with respect to probable majors in eight selected broad fields, we find that business, engineering, and allied health became more popular freshman choices between 1971 and 1979; education, arts and humanities, and social sciences became less popular; and the popularity of the biological sciences remained stable (Table 23). The physical sciences and mathematics became slightly more popular among men but less so among women. Especially notable were the increases in the proportion of Puerto Rican women naming a probable major in engineering (from none in 1971 to 2.2 percent in 1979) and allied health (from 11 percent to 17 percent) and the decreases in women naming arts and humanities (from 14 percent to 8.5 percent). Education as a probable major dropped sharply in popularity among Puerto Rican women between 1971 and 1975

Table 23

Trends in Probable Major Field of Study for Puerto Rican Freshmen, by Sex, 1971, 1975, 1979

(percentages)

Probable Major Field	Puerto Rican Freshmen								
	Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979
Business	7.0	16.8	14.6	9.3	20.2	16.5	8.9	12.5	12.9
Engineering	8.1	6.1	9.2	14.2	10.4	16.5	0.0	0.4	2.2
Biological sciences	4.2	4.4	4.2	4.1	4.5	4.2	4.3	4.2	4.3
Physical sciences and mathematics	2.0	2.6	1.7	2.5	3.4	2.6	1.3	1.6	0.9
Education	10.3	5.0	8.9	8.7	3.7	4.4	12.4	6.6	13.2
Allied health	6.2	9.5	10.2	2.7	3.1	2.9	10.9	17.9	17.2
Arts and humanities	11.0	8.4	8.0	9.0	7.9	7.4	13.7	9.1	8.5
Social sciences	20.1	13.9	11.3	16.3	9.6	7.9	25.0	19.5	14.5

(from 12 percent to 6.6 percent) but then rose again to slightly above the 1971 level in 1979 (13 percent).

Again looking just at Puerto Rican trends, we find that, among freshman women, the career choices of businessperson, engineer, medical professional, and nurse became more popular between 1971 and 1979, whereas the career choices of elementary or secondary school teacher dropped sharply in popularity (Table 24). Puerto Rican men became more likely to name lawyer and allied health professional as their probable career; but smaller proportions in 1979 than in 1971 planned to become medical professionals, nurses, or elementary/secondary school teachers.

The freshman questionnaire asked respondents to assess the likelihood of certain occurrences during the college years. The proportions of all freshmen saying that there was "some chance" or a "very good chance" that they would get married while in college dropped from 8.4 percent in 1971 to 5.1 percent in 1979 (Table 25). Though the proportions were considerably higher among Puerto Ricans--42 percent in 1971 and 30 percent in 1979--the downward trend was the same, being especially marked among men (a decrease from 44 percent to 25 percent). Apparently, those Puerto Ricans entering college toward the end of the decade were much more inclined to defer marriage until after college than were their earlier counterparts.

Similarly, the proportions of all freshmen expecting to have to work at an outside job while in college dropped from 33 percent in 1971 to 24 percent in 1979. The decrease in the proportions of Puerto Ricans was also large (from 77 percent of both sexes in 1971 to 56 percent of the women and 62 percent of the men in 1979) though Puerto Ricans were over twice as likely as students-in-general to expect to work at outside jobs, an expectation that is consistent with their more disadvantaged

Table 24

Trends in Career Choice for Puerto Rican Men and Women

1971, 1975, 1979

(percentages)

Career Choice	Puerto Rican Freshmen					
	Men			Women		
	1971	1975	1979	1971	1975	1979
Businessperson	13.6	13.0	13.8	0.0	11.6	11.8
Engineer	13.7	5.8	13.4	0.0	0.7	1.8
Lawyer	8.9	9.8	11.5	11.5	8.8	10.4
Medical professional	8.8	6.8	5.3	5.8	3.1	8.9
Nurse	2.6	0.1	1.2	7.8	14.8	13.6
Allied health professional	1.3	3.0	3.0	3.6	7.9	3.9
Elementary/secondary school teacher	9.8	6.2	2.7	20.5	5.1	8.8

Table 25

Trends in Expectations about Occurrences During College for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)[a]

				Puerto Rican Freshmen								
	All Freshmen			Total			Men			Women		
Occurrence	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
Get married while in college	8.4	6.1	5.1	42.2	30.2	29.7	43.5	28.2	25.1	40.3	32.8	34.1
Make at least a B average	23.6	38.6	40.8	88.1	88.1	90.1	87.7	85.9	90.9	88.6	91.3	89.4
Have to work at outside job during college	33.2	31.0	23.6	77.1	71.0	58.8	77.4	69.4	61.6	76.6	73.0	56.1
Drop out permanently	0.8	1.0	1.1	4.4	7.6	4.6	5.2	9.4	4.3	3.1	5.1	5.3
Be satisfied with college of entry	57.0	53.2	54.3	97.8	90.3	94.3	97.7	87.0	93.2	97.9	94.6	95.4

[a] Proportions indicating that there was "some chance" or a "very good chance."

socioeconomic status.

Among all freshmen, those expecting to make at least a B average in college rose from 24 percent in 1971 to 41 percent in 1979; these rising expectations are consistent with the general high school grade inflation reported earlier, an inflation that also occurred at the college level. Among Puerto Ricans, the increase was much smaller but the proportions were much larger: from 88 percent to 90 percent during the same period. Given that the high school grades of Puerto Ricans did not show the same tendency toward inflation as the grades of the general freshman population, these expectations seem unrealistic.

The proportions of entering freshmen expecting to be satisfied with college dropped between 1971 and 1979: from 57 percent to 54 percent of all freshmen, and from 98 percent to 94 percent of Puerto Ricans. Obviously, Puerto Ricans are likely to have very high expectations--perhaps unrealistically so--on this score as well.

Very few entering freshmen expected to drop out permanently before completing their educational programs: only .8 percent of all freshmen in 1971, 1 percent in 1975, and 1.1 percent in 1979. Among Puerto Ricans, the figures were higher and the pattern different: 4.4 percent in 1971, 7.6 percent in 1975, and 4.6 percent in 1979. Indeed, among Puerto Rican men, the figure peaked at 9.4 percent in 1975.

This pattern may in part be explained by the similar pattern found for concern over ability to pay for a college education: 26 percent of Puerto Ricans in 1971, 40 percent in 1975, and 33 percent in 1979 expressed major concern over college finances (Table 26). The proportions of women were especially high: 30 percent in 1971, 46 percent in 1975, and 39 percent in 1979. The trend among all freshmen was roughly similar, though

Table 26

Trends in Concern Over Financing a College Education for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)

Concern	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
None	33.9	36.7	33.8	20.5	22.5	18.9	20.6	27.1	21.1	20.3	15.7	16.6
Some concern	55.6	47.0	51.7	54.0	37.1	48.2	57.0	36.3	51.8	49.3	38.3	44.5
Major concern	10.4	16.4	14.5	25.5	40.4	32.9	22.4	36.6	27.1	30.4	46.1	39.0

the proportions were much smaller: 10 percent of all freshmen in 1971, 16 percent in 1975, and 14.5 percent in 1979 said they felt major concern over their ability to pay for a college education. The proportions saying they felt no financial concern were relatively stable over the eight-year period: 19-22 percent of the Puerto Ricans and 34-37 percent of all freshmen.

Attitudes and Values

The freshman questionnaire asked respondents to indicate both their motivations for going to college and their reasons for choosing their particular college.

Of four selected motivations for going to college, "to gain a general education and appreciation of ideas" was most likely to be regarded as very important, and it gained in importance during the decade, especially among Puerto Rican men: from 57 percent in 1971 to 75 percent in 1979 (Table 27). Women were even more likely than men to say that gaining a general education was a very important reason for their going to college, and this was true among both Puerto Ricans and in the general freshman population. The proportions saying they went to college in order "to be able to make more money" also increased--more so among freshmen-in-general than among Puerto Ricans and more so among women than among men. The proportions of all freshmen saying a very important reason for going to college was that their parents wanted them to go rose from 23 percent in 1971 to 30 percent in 1979, with little difference between the sexes. Among Puerto Ricans, however, the sexes differed on this point: Women became more inclined to cite this reason (from 25 percent in 1971 to 42 percent in 1979), whereas men became less so (from 36 percent to 34.5

Table 27

Trends in Motivations for Going to College for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1979

(percentages)[a]

Motivation	All Freshmen		Puerto Rican Freshmen					
			Total		Men		Women	
	1971	1979	1971	1979	1971	1979	1971	1979
To gain a general education and appreciation of ideas	59.5	68.5	66.0	78.9	57.0	74.7	79.5	83.2
To be able to make more money	49.9	63.9	53.4	62.2	56.0	64.3	49.4	60.0
My parents wanted me to go	22.9	29.7	31.8	38.2	36.0	34.5	25.1	41.9
There was nothing better to do	2.2	2.0	3.0	4.3	3.7	5.1	2.0	3.5

[a] Proportions indicating motivation was "very important."

percent). One might surmise from this that, over the decade, Puerto Rican families came increasingly to support the idea of a college education for their daughters.

Of the reasons given for attending a particular institution, the college's having a "good academic reputation" was the most common and became more so over the decade (Table 28). It was cited by 33 percent of Puerto Ricans in 1971 and by 46 percent in 1975 and 1979. The trend was the same among freshmen-in-general. On the other hand, the college's offering special programs was less apt to be an attraction in 1979 than in 1971, except among Puerto Rican women. The slight increase (from 46 percent to 47 percent) might be attributable to the growth in the proportion of Puerto Rican women planning to major in allied health fields; only a limited number of institutions offer programs in some of these fields.

Low tuition was another reason often cited as very important in choosing a particular college; the proportions mentioning it peaked in 1975 (30 percent of Puerto Ricans, 25 percent of all freshmen), then dropped in 1979 (19 percent of Puerto Ricans, 17 percent of all freshmen). This finding is consistent with the finding that 1975 entering freshmen were more inclined than were other entering cohorts to express major concern about their ability to pay for a college education. Given this level of concern over finances, many students would probably seek institutions where costs are low.

The proportions of Puerto Ricans saying they chose their particular college because they wanted to live at home declined substantially: from 26 percent in 1971 to 17 percent in 1979, a 35 percent proportionate drop. The decline among all freshmen was much smaller (from 12 percent to 11 percent).

Table 28

Trends in Reasons for Going to a Particular College for Puerto Rican Freshmen, by Sex, and for All Freshmen, 1971, 1975, 1979

(percentages)[a]

	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
Reason	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
My relatives wanted me to come here	7.8	8.0	5.9	8.2	9.8	9.5	7.8	9.6	8.9	8.8	10.1	10.2
This college has a very good academic reputation	36.1	47.5	49.1	32.6	45.5	46.2	33.0	12.9	41.3	32.0	49.2	51.4
This college has low tuition	18.8	24.7	16.6	19.4	29.8	18.9	13.0	30.0	16.1	16.4	29.5	21.9
Someone who had been here before advised me to go	15.7	16.6	14.4	9.6	17.1	16.9	11.1	16.3	15.8	7.3	18.2	18.1
This college offers special educational programs	32.6	28.2	26.4	44.2	41.0	41.8	43.0	36.6	36.6	45.9	47.3	47.1
My guidance counselor advised me	7.2	8.4	7.5	8.5	11.4	12.2	8.2	11.9	10.7	9.0	10.7	13.7
I wanted to live at home	12.2	14.1	11.0	12.1	18.9	17.2	26.3	14.6	16.8	26.5	24.8	17.7

[a] Proportions indicating reason was "very important."

Over the eight-year span, there were increases in the proportions of Puerto Ricans saying they attended a particular college on the advice of "someone who had been here before" (from 10 percent to 17 percent), of relatives (from 8.2 percent to 9.5 percent), or of a high school guidance counselor (from 8.5 percent to 12 percent). The proportions of all freshmen citing these three reasons were either stable or declined slightly.

A shift to the right of the political spectrum was evident among entering freshmen in the course of the decade (Table 29). Over one in three of the 1971 entering class, but fewer than one in four of the 1979 entering class, reported a "far left" or "liberal" political position; those saying they were "middle-of-the-road" increased from 47 percent to 58 percent; and those who declared themselves to be "conservative" or "far right" increased from 15 percent to 18 percent.

The same trends were apparent among Puerto Ricans, although they were slightly more likely than were all freshmen to adopt extreme positions (far left or far right). The proportions saying they were middle-of-the-road remained stable: 48 percent in 1971 and 1975 and 49 percent in 1979. Puerto Rican men were more likely than Puerto Rican women to move to the right over the decade. Thus, in 1971 and 1975, close to one-tenth of the men said they were far left; by 1979, the proportion had dropped to 3.3 percent. The trend was more complicated among Puerto Rican women: a drop from 5.9 percent in 1971 to 3.5 percent in 1975, and a subsequent rise to 4.6 percent in 1979. Puerto Rican men also became less inclined to say they were liberal (30 percent in 1971 and 25 percent in 1979), whereas the proportion of women espousing a liberal position remained fairly stable. The proportion of all Puerto Ricans saying they were conservative or far right rose from 15 percent in 1971 to 22 percent in 1979.

Table 29

Trends in Political Orientation of Puerto Rican Freshmen, by Sex, and of All Freshmen, 1971, 1975, 1979

(percentages)[a]

Political Orientation	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
Far left	2.8	2.1	2.0	7.9	6.8	3.9	9.2	9.2	3.3	5.9	3.5	4.6
Liberal	35.3	28.8	22.5	28.9	27.0	25.4	29.7	29.3	25.3	27.6	23.6	26.6
Middle-of-the-road	46.8	53.8	57.9	47.8	48.5	48.6	45.6	43.6	49.4	51.2	55.7	47.4
Conservative	14.5	14.5	16.6	14.4	16.2	20.0	13.9	15.9	20.5	15.3	16.6	19.5
Far right	0.7	0.7	0.9	0.9	1.5	1.6	1.5	2.1	1.6	0.0	0.6	1.6

This rightward shift in the declared political ideology of entering freshmen was to some degree reflected in changes in their opinions on certain social and political questions (Table 30). Most striking was the increasing tendency to agree "somewhat" or "strongly" with the statement "There is too much concern in the courts for the rights of criminals": from about one in three Puerto Ricans in 1971 to over half (56 percent) in 1979. The proportions of Puerto Rican women agreeing with this statement more than doubled: 24 percent in 1971, compared with 53 percent in 1979. Freshmen-in-general also became more likely to feel that the courts are too lenient, though the percentage change was not as great: from 48 percent in 1971 to 62 percent in 1979.

The greater conservatism of the later cohorts was also reflected in changes with respect to the feeling that an open-admissions policy should be adopted by all publicly supported institutions: 57 percent of Puerto Ricans in 1971, but only 52 percent in 1979. On this question, Puerto Rican men registered the greater change. Comparable figures among all freshmen were 37 percent in 1971 and 35 percent in 1979.

The proportions of Puerto Ricans subscribing to the notion that college officials have the right to ban persons with extreme views from speaking on campus increased from 24 percent in 1971 to 29 percent in 1975 but then dropped to 25 percent; among all freshmen, 28 percent in 1971 and 26 percent in 1979 agreed with this statement.

The majority of students agreed that "even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students": 78 percent of both 1971 and 1979 freshmen. Among Puerto Ricans, the proportions subscribing to this statement declined: from 80 percent in 1971 to 74 percent in 1979.

Table 30

Trends in Opinions of Puerto Rican Freshmen, by Sex, and of All Freshmen, 1971, 1975, 1979 (percentages)[a]

Opinion	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
College officials have the right to ban persons with extreme views from speaking on campus	27.8	24.3	25.7	24.0	28.7	25.4	32.2	32.2	24.9	26.8	23.1	25.9
There is too much concern in the courts for the rights of criminals	48.1	53.5	62.4	33.8	54.0	56.0	40.0	62.4	59.0	24.1	42.0	52.9
Open admissions should be adopted by all publiclly supported colleges	37.2	36.0	35.2	56.9	58.0	52.0	61.2	59.7	48.8	50.2	55.3	55.3
Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students	77.5	75.9	77.6	79.6	74.3	74.5	79.0	76.3	76.4	80.7	72.5	72.6
Women should receive the same salary and opportunities for advancement as men in comparable positions	87.8	92.2	92.4	87.2	87.1	90.9	84.6	83.9	89.6	91.2	91.6	92.2

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[a] Proportion agreeing "strongly" or "somewhat."

On at least one aspect of women's rights, freshmen became somewhat more liberal over the decade: In 1971, 87 percent of Puerto Ricans agreed that "women should receive the same salaries and opportunities for advancement as men in comparable positions"; in 1979, the proportion had increased to 91 percent. The figures for all freshmen were almost identical.

Entering freshmen were asked to indicate which of a number of life goals they regarded as "very important" or "essential" (Table 31). Looking at four selected life goals, we find the most striking change over the decade occurs with the goal of "being very well-off financially": in 1971, 52 percent of Puerto Ricans endorsed this goal; by 1975, the proportion had increased to 61 percent; by 1979, it rose again to 75 percent of the women and 66 percent of the men. The increase among freshmen-in-general was even more striking: from 40 percent in 1971 to 50 percent in 1975 to 63 percent in 1979. It seems reasonable to conclude, then, that entering freshmen--including Puerto Ricans--became more materialistically oriented during the 1970s.

Other shifts in goals over the decade were less dramatic. In 1971, one-third of the Puerto Ricans gave high priority to participating in community action programs; in 1975, this proportion rose to 37 percent; but it declined to 34 percent in 1979. The trend among all freshmen was the same: 26 percent in 1971, 30 percent in 1975, and 26 percent in 1979.

The proportions of all freshmen wanting to influence the political structure remained more or less stable over the decade: 14 percent in 1971 and 1975, 15 percent in 1979. Among Puerto Ricans, the proportions were 14 percent in 1971, 19 percent in 1975, and 16 percent in 1979. These overall figures mask the fact that the proportion of Puerto Rican men with political goals peaked at 23 percent in 1975.

Table 31

Trends in Life Goals of Puerto Rican Freshmen, by Sex, and of All Freshmen, 1971, 1975, 1979

(percentages)[a]

	All Freshmen			Puerto Rican Freshmen								
				Total			Men			Women		
Life Goal	1971	1975	1979	1971	1975	1979	1971	1975	1979	1971	1975	1979
Participating in a community action program	25.9	30.4	26.0	33.2	37.2	34.1	33.4	36.8	32.1	32.9	37.9	36.1
Being very well-off financially	40.1	49.5	62.7	51.7	60.6	70.5	52.3	59.5	65.8	50.7	62.2	75.3
Influencing political structure	14.1	14.4	15.4	14.4	19.1	15.9	14.0	22.9	18.9	14.7	13.8	12.9
Writing original works (poems, novels, short stores, etc.)	13.2	12.1	12.4	10.5	12.1	14.2	10.0	11.2	11.4	11.2	13.5	17.1

[a] Proportjons indicating goal was "essential" or "very important."

Among all freshmen, the proportions subscribing to the artistic goal of writing original works such as poems and short stories dropped slightly, from 13 percent to 12 percent. Among Puerto Ricans, however, the proportions rose, though this increase was accounted for by women: from 11 percent in 1971 to 17 percent in 1979.

Summary

In contrast to trends among all freshmen, the socioeconomic status and high school grades of Puerto Ricans entering college as freshmen improved very little during the 1970s. At the close of the decade as at the beginning, Puerto Ricans were much more likely than were freshmen-in-general to come from low-income families and to report that their parents had not completed high school; they were less likely to earn A averages in high school. Nonetheless, their degree aspirations rose, as did those of all freshmen. These rising aspirations were especially marked among Puerto Rican women: The proportion planning to get a doctorate or a professional degree doubled over the decade.

Many of the changes evident among Puerto Rican freshmen were also evident among all freshmen and probably reflect the changing national mood. Thus, such "practical" fields as business and allied health became more popular, whereas education became less popular, probably because of the widely publicized decline in teaching jobs. A swing toward greater conservatism was evident both in stated political preference and in attitudes on such issues as open admissions at public colleges and the rights of criminals. In addition, Puerto Ricans--like freshmen-in-general--became somewhat more materialistic in that they put greater emphasis on the goal of being very well-off financially and in making more money as a prime reason for going to college.

CHAPTER 8

FACTORS INFLUENCING THE EDUCATIONAL DEVELOPMENT OF PUERTO RICANS

A primary purpose of the project was to identify those personal and environmental factors that help to account for high educational attainment among the four minority groups under consideration. How do those minority students who complete college differ in their background characteristics from those who drop out before fulfilling their degree aspirations? What distinguishes those who go on to graduate or professional school? Which types of institutions are most successful at encouraging their minority students to persist to degree completion? How effective are various forms of financial aid in promoting desirable educational outcomes? To answer these and similar questions, a series of regression analyses was undertaken, based on two longitudinal data files: of 1975 freshmen followed up in 1977, two years after college entry; and of 1971 freshmen followed up in 1980. Only those who initially aspired to at least a baccalaureate were included in the samples for these analyses.

As was reported in Chapter 1, several strategies were used to collect current information on those who entered college in 1971. First, they were mailed a four-page questionnaire. Second, they were polled by telephone. Third, the institutions they entered in 1971 were sent rosters of their names and asked to provide basic data. Only 70 Puerto Ricans returned questionnaire forms that could be used in the analyses; this group is termed the "limited sample." An additional 301 Puerto Ricans were contacted by telephone, and information on 162 more was collected through the institutional rosters. The "extended sample" was divided into three subsamples for purposes of analysis: (1) all entrants (which includes the limited sample, plus all those Puerto Ricans contacted in the telephone follow-up); (2) two-year-college entrants (which includes only those who entered two-year colleges in 1971 from the limited sample, from those contacted in the telephone follow-up, and from those for whom the freshman institutions provided data); and (3) four-year-college entrants (which includes only those who entered four-year colleges and universities in 1971 from the limited sample, from those contacted in the telephone follow-up, and from those for whom the freshman institutions provided data).

Table 32 gives information on sample sizes, sex composition, and baccalaureate completion rates. Table 33 shows distribution by freshman institutional type. The baccalaureate completion rate of Puerto Ricans who returned the 1980 follow-up instrument (i.e., the limited sample) was four times larger than that of nonrespondents to the questionnaire who were reached through the telephone follow-up. This difference is consistent with the general observation, drawn from experience with mail surveys, that people who see themselves as "successful" are more likely to complete and return questionnaires than are those who fail to reach their goals. In addition, members of the limited sample were more likely to have attended private institutions than were members of the extended sample. If one looks just at the extended sample as being the more representative of the population, it is clear that 1971 Puerto Rican freshmen were most likely to have enrolled in public four-year colleges, followed by private four-year colleges and public two-year colleges. A slightly higher proportion entered private universities than entered public universities. Only about 4 percent enrolled in private two-year colleges. Though not shown in the table, the great majority of Puerto Ricans (about 70 percent) entered institutions located in

Table 32

Size, Sex Composition, and Baccalaureate Completion Rate of Puerto Rican Samples Used in Longitudinal Analyses

Sample	Size	% Women	Baccalaureate Completion Rate
1975-77	170	56	n.a.
1971-80 limited[a]	70	44	60
1971-80 extended:			
All entrants[b]	371	39	15
2-year college entrants[c]	108	37	21
4-year college entrants[d]	425	44	35

[a] Includes only those persons who completed the mailed survey questionnaire.

[b] Includes the 1971-80 limited sample, plus those persons contacted by telephone follow-up.

[c] Includes only those who entered two-year colleges in 1971 from the 1971-80 limited sample, from those contacted by telephone follow-up, and from those for whom 1980 follow-up data were provided by the freshman institution.

[d] Includes only those who entered four-year colleges or universities in 1971 from the 1971-80 limited sample, from those contacted by telephone follow-up, and from those for whom 1980 follow-up data were provided by the freshman institution.

Table 33

Institutional Distribution of Puerto Rican Samples[a] Used in Longitudinal Analyses

(percentages)

Type of Institution	1975-77 Sample (N=170)	1971-80 Limited Sample (N=70)	1971-80 Extended Sample: All Entrants (N=371)	1971-80 Extended Sample: 2-Year College Entrants (N=108)	1971-80 Extended Sample: 4-Year College Entrants (N=425)
Public two-year college	9.6	5.7	11.6	78.7	n.a.
Public four-year college	33.7	38.6	46.1	n.a.	53.4
Public university	12.9	5.7	7.8	n.a.	8.7
Total: Public sector	56.2	50.0	65.5	78.7	62.1
Private two-year college	2.2	4.3	3.5	21.3	n.a.
Private four-year college	34.8	27.1	20.5	n.a.	23.1
Private university	6.7	18.6	10.5	n.a.	14.8
Total: Private sector	43.7	50.0	34.5	21.3	37.9

[a] See footnotes to Table 1 for definition of the samples.

the Mideastern region (which comprises New York, New Jersey, Pennsylvania, Delaware, Maryland, and the District of Columbia), about 8 percent entered New England colleges, 8 percent entered Great Lakes colleges, and 7 percent enrolled in institutions (especially two-year colleges) in the Far West.

The method of analysis was a two-stage multiple regression, whereby the student's input characteristics (i.e., the demographic and family background factors, high school background and experiences, aspirations, attitudes, values, and so forth that characterized the student at the time he/she entered college) were controlled before any attempt was made to assess the effects of the institutional environment and of the student's college experiences. These initial controls are necessary because students entering different colleges may not be comparable. In effect, controlling for student input characteristics statistically "matches" students entering different types of institutions and thus permits a clearer assessment of how different college characteristics and experiences affect students.

A variety of outcomes were examined in the longitudinal analyses. In the case of 1975-77 freshmen followed up in 1977, the three outcomes of interest were persistence, cumulative grade average during the first two years of college, and satisfaction with the freshmen institution. The analyses of the 1971-80 limited sample included three undergraduate measures (persistence or baccalaureate completion, undergraduate grade average, satisfaction with undergraduate college), final undergraduate major field of study, graduate attainment, and final career choice. Outcome measures for the 1971-80 extended sample were persistence in two-year colleges, persistence in four-year colleges and universities, and general persistence (all institutions).

Because the 1971-80 limited sample was so small (only 70 Puerto Ricans returned questionnaires that could be used in the longitudinal analyses), and because data from the 1975-77 sample permit assessment only of short-range outcomes (two years after college entry), the discussion that follows will focus on persistence outcomes for the 1971-80 extended sample, though mention will be made of findings from the other analyses. The first section summarizes the findings for student input variables, and the second section summarizes the findings for environmental variables.

Student Input Factors

The student input variables used in the longitudinal analyses can be grouped into four categories: demographic characteristics and family background; high school background (including academic preparation); plans and expectations; and other student characteristics.

Demographic Characteristics and Family Background

Although gender was not related to persistence among Puerto Ricans, it was related both to grades and satisfaction for the 1975-77 sample: Puerto Rican women tended to make better grades than their male counterparts during the first two years of college and also tended to be more satisfied with the college experience. That women tended to make higher grades in college than men, whatever their race/ethnicity, has been established by a body of previous research (see Astin, 1971; 1977). Age had a small but significant negative relationship with persistence for entrants at all institutions in the 1971-80 extended sample: That is, older Puerto Rican students were somewhat more likely than were those of traditional college age to drop out before completing the baccalaureate.

Several family background variables indicative of socioeconomic status were related to persistence. The higher the parental income, the more likely the Puerto Rican student was to remain in college, independent of other characteristics. Similarly, Puerto Ricans whose fathers were in fairly high-status occupations (businessman, allied health professional) were likely to complete the baccalaureate; and, for the sample of two-year college entrants, those whose mothers were nurses or allied health professionals had a good chance of persisting in college.

High School Background

As is generally true for students of all racial/ethnic backgrounds (see Astin, 1971; 1977), making good grades in high school positively predicted making good grades in college among Puerto Rican students. Neither high school grade average nor rank in graduating class, however, was a factor in the persistence of Puerto Rican undergraduates. Moreover, once high school grades were taken into account, scores on standard college admissions tests had little bearing on college performance or progress.

For the 1971-80 limited sample, one item from a list of college activities was related to persistence: Those Puerto Rican students who said that they frequently checked books or journals out of their high school libraries were not only more likely to complete the baccalaureate but also more likely to attain an advanced degree. This high school behavior may indicate a stronger-than-average intellectual orientation and drive to achieve. Among four-year-college entrants in the 1971-80 extended sample, two items signifying high achievement in high school--participating in a National Science Foundation summer program and having writing published--

were modestly related to persistence. In the 1975-77 sample, those Puerto Rican students who said that their high schools had prepared them well in foreign languages were more likely to persist, and those who felt that they had developed good study habits in high school were more likely to be satisfied with their institutions two years after college entry.

Plans and Expectations

Expecting to have to work at an outside job while attending college was negatively related to persistence among entrants at all institutions in the 1971-80 extended sample and to enrollment in graduate or professional school and attainment of an advanced degree among members of the 1971-80 limited sample. This finding is consistent with findings from the survey of minority academic personnel (see Chapter 9), which indicate that having to work at an outside job while attending school is a substantial barrier to many Puerto Rican students during both the undergraduate and the graduate years. Astin (1975) found that students often have difficulty staying in college if they work more than 24 hours a week; apparently, this effect is particularly severe in the case of Puerto Ricans.

On the other hand, expecting to earn at least a B average in college was positively related to persistence among those entering four-year colleges and universities, while expecting to graduate with honors was positively related to college grades for the 1975-77 sample.

The best predictors of final undergraduate major field of study and 1981 career plans were, not surprisingly, the freshman choices of major field and career. For instance, those Puerto Ricans who in 1981 gave businessperson as their career choice were likely to have said, as freshmen, that they planned to major in business. Thus, freshman choices are to some extent reliable over time.

In addition, freshman choices as to major field and career were related to persistence for the 1971-80 extended sample. Among all entrants, those naming allied health as their probable major were likely to complete the baccalaureate. Among entrants to two-year colleges, the probable majors of physical science and education, and the career choices of nurse and engineer, positively predicted persistence. Among entrants to four-year colleges and universities, the freshman career choices of allied health professional and businessperson were related to persistence, whereas the probable majors of physical science and premedicine were related to attrition. Similarly, in the 1975-77 sample, a freshman career choice of lawyer was positively related, and a freshman career choice of medical professional (physician, dentist, optometrist, veterinarian) was negatively related, to grades during the first two years of college. In some ways, these effects might better be regarded as environmental: Students who major in physical sciences or in premedicine may find their undergraduate courses much more rigorous and demanding than those majoring in other fields, and the difficulties they encounter in these courses may cause them not only to make lower grades but also to drop out.

Other Student Characteristics

One of the most consistent predictors of academic achievement among Puerto Rican college students was a high self-rating of academic ability. In the 1971-80 limited sample and in the 1971-80 extended sample (all students and four-year-college entrants), those students who rated themselves high on academic ability were more likely to complete the baccalaureate. In addition, for the 1971-80 limited sample, those who saw themselves as academically able were more likely to make high grades in college.

Concern over ability to pay for college was negatively related to persistence for both two-year and four-year-college entrants in the 1971-80 extended sample and was negatively related to satisfaction for the 1975-77 sample. In short, anxiety over finances has unfavorable effects on Puerto Rican undergraduates.

Two attitude items were negatively related to persistence, especially among two-year-college entrants: Those Puerto Ricans who believed that the chief benefit of a college education is to increase one's earning power, and those who agreed that all public colleges should adopt open admissions, were more likely to drop out of college.

Environmental Factors

The environmental variables used in the longitudinal analyses can be grouped into four categories: institutional type, institutional quality, other institutional characteristics, and financial aid. Table 34 summarizes the results of the analyses with respect to environmental characteristics.

Institutional Type

As Table 34 indicates, Puerto Ricans enrolling in private institutions, especially universities, were more likely than were those entering public institutions to complete the baccalaureate. Public universities are neutral in their effects, but enrollment in a public two-year or four-year college increases the Puerto Rican student's chances of dropping out. The generally unfavorable impact of community colleges has been extensively documented (see, for example, Astin, 1975, 1977; Olivas, 1979). It would seem that, for Puerto Ricans, enrollment in public four-year colleges is just as undesirable in terms of baccalaureate completion. As was pointed out earlier, the majority of Puerto Ricans in all the samples entered

Table 34

Environmental Factors Influencing Persistence Among Puerto Ricans

(Partial Correlations After Control of Student Input Characteristics)

	1971-80 Extended Sample		
Environmental Factor	All Entrants (N=371)	2-Year College Entrants (N=108)	4-Year College Entrants (N=425)
Institutional type:			
Public two-year college	.01	-.18[a]	n.a.
Public four-year college	-.08	n.a.	-.21[a]
Public university	-.03	n.a.	-.03
Private two-year college	-.02	.18[a]	n.a.
Private four-year college	.03	n.a.	.13[a]
Private university	.12[a]	n.a.	.13[a]
Institutional quality:			
Prestige	.12[a]	-.25[a]	.16[a]
Selectivity	.10[a]	-.11	.17[a]
Enrollment size	-.04	-.25[a]	-.08
Educational and general expenditures	.08	-.02	.11[a]
Tuition	.10[a]	.14	.19[a]
Student-faculty ratio	-.04	-.06	-.10[a]
Region:			
Far West	-.03	-.56[a]	.01
Financial aid:			
Federal loan	.12[a]	.06	.08

[a] Significant at the .05 level of confidence

public-four year colleges, most of them probably in the CUNY system. These institutions resemble community colleges in that they are large, urban, commuter institutions rather than residential colleges and offer few opportunities for the kind of involvement that seems to facilitate persistence among undergraduates.

Consistent with the above findings, Puerto Rican students attending two-year colleges (1975-77 sample) and public four-year colleges (1971-80 limited sample) were apt to express dissatisfaction with the college experience, whereas those attending private universitites and private two-year colleges (1971-80 limited sample) tended to be satisfied with college.

Institutional Quality

Findings for the 1971-80 extended sample indicate that, for all students and for entrants to four-year colleges and universities, attending a high-quality institution--i.e., one that is selective (as measured by the average academic ability of entering freshmen) and prestigious (as measured by an index of prestige combining selectivity and large size, with greater weight being given to selectivity; see Astin and Lee, 1971), that charges a high tuition, and that has high per-student general and educational expenditures and a low student-faculty ratio--increases the likelihood of baccalaureate completion. Enrollment size per se has a slightly negative effect on persistence for four-year-college and university entrants. In the case of two-year-college entrants, the effects of the other quality measures are mixed (though not significant). One reason for this pattern of relationships is that most two-year colleges score low on quality measures. In addition, community colleges usually have much larger enrollments than private two-year colleges, so that institutional size within the two-year-college sector may simply be a surrogate for control (public versus private).

The results of other analyses lend support to these findings. For the 1971-80 limited sample, selectivity and per-student expenditures were positively related to attainment or current pursuit of an advanced degree, and tuition was positively related to satisfaction. For the 1975-77 sample, enrollment in a large institution was associated with attrition. Finally, Puerto Ricans who enrolled in institutions with low student-faculty ratios were more likely to go on to advanced study, according to findings for the 1971-80 extended sample.

Other Institutional Characteristics

Among Puerto Ricans who entered two-year colleges in 1971, attending an institution in the Far West was negatively related to persistence. This finding probably reflects enrollment in California's community colleges, which constitute the lowest tier in the state's hierarchical public education system. Such arrangements have a strongly unfavorable impact on student persistence, and because minority students tend to be concentrated in the community colleges, consitute a denial of equal educational opportunity.

One other institutional characteristic proved to have a significant impact among Puerto Ricans in the 1971-80 limited sample: Those who attended an institution with a relatively large proportion of women on the faculty had a good chance of completing the baccalaureate, making a high undergraduate grade average, and getting an advanced degree.

Financial Aid

The only financial aid variable that proved significant in the longitudinal analyses of the 1971-80 sample was getting a federal loan, which had a significant positive relation with persistence for entrants to all institutions, as well as positive but nonsignificant correlations with persistence among entrants to two-year colleges and entrants to four-year colleges and universities. This finding was somewhat unexpected, since previous research indicates that loans generally have negative effects on students (Astin, 1975; Astin, Cross, and Porter, 1979). The explanation probably lies in the fact that the only federal loan program in operation at the time of the freshman survey (fall 1971) was the National Direct Student Loan (NDSL) program, which was administered through the institutions themselves and which invloved relatively small amounts lent at a low interest rate (3 percent). In contrast, the later federal loan programs were administered by the banks and often involved very large sums at higher interest rates. Apparently, the NDSL loans taken by Puerto Ricans in the early 1970s were not so large as to add a heavy load of indebtedness to the financial concern frequently expressed by these students; rather, they seem to have eased the financial burden to some extent and thus to have facilitated baccalaureate completion.

The analyses of other samples produced some additional findings with respect to financial aid. For the 1971-80 limited sample, getting any type of financial aid contributed to persistence. For the 1975-77 sample (which was originally used in a study of the impact of financial aid on persistence over the first two years of college; see Astin, Cross, and Porter, 1979), getting financial support from one's parents was positively related to satisfaction, perhaps because such support indicates that the family also gave psychological support for the student's college attendance. On the other hand, getting only a loan and no other form of financial aid was related to dissatisfaction for this sample.

Summary

The major focus of this chapter has been on the findings to emerge from longitudinal analyses of the 1971-80 sample on factors influencing undergraduate persistence (completion of the baccalaureate). The main points may be summarized as follows: Puerto Ricans who came from relatively high socioeconomic backgrounds and who, as freshmen, saw themselves as having superior academic ability, expressed little concern about their ability to pay for college, and did not anticipate having to work at an outside job were likely to complete the baccalaureate. Enrollment in a high-quality private institution increased the Puerto Rican undergraduate's chances of persisting, whereas attending a community college (especially one located in the Far West) or a public four-year college decreased his/her chances. Finally, those who majored in the physical sciences or in a premedical curriculum were more likely to drop out than were those choosing other majors.

With respect to undergraduate grades, Puerto Ricans who had made good grades in high school, who rated themselves high on academic ability, and who demonstrated an intellectual orientation by making frequent use of the high school library were likely to do well in college. Puerto Rican women made higher grade averages than did Puerto Rican men during their first two years of college, but there were no differences between the sexes with respect to grades over the longer period.

Satisfaction with college was associated with being female, having developed good study habits in high school, and feeling little anxiety over being able to pay for college. Puerto Ricans who attended high-cost private universities and private two-year colleges were likely to be satisfied with the college experience, whereas those attending public two-year and four-year colleges were likely to be dissatisfied. Getting financial support from parents was related to satisfaction, but getting financial aid in the form of a loan only was related to dissatisfaction.

Puerto Ricans who, as freshmen, said they would probably have to work at an outside job while attending college were unlikely to go on for advanced training. Graduate attainment (enrollment in graduate or professional school, completion of an advanced degree) was related to freshman enrollment in a selective institution with relatively high per-student general and educational expenditures and a relatively low student-faculty ratio.

In summary, these findings highlight the disadvantages imposed by the very low socioeconomic status of most Puerto Ricans in the United States. Financial concerns, the need to work while attending college, and the lack of access to those institutions that might facilitate their educational attainment are a part of this picture. It is equally clear that self-concept is important. A high self-rating of academic ability seems to outweigh the student's high school grade record and performance on achievement tests in predicting successful educational outcomes.

CHAPTER 9

VIEWS AND EXPERIENCES OF PUERTO RICAN PROFESSIONALS

Valuable insights can be gained from the reports of Puerto Ricans who have progressed through the educational system to achieve at a high level. Not only can these professionals draw on past experiences to elucidate factors that facilitated or hindered their own development, but also they are in a position to make observations about how academic institutions and educational programs affect Puerto Ricans generally. This rich resource of information was tapped by means of (1) a mailed survey of minority academic personnel (faculty, administrators, and counselors), (2) a mailed survey of recipients of Ford Foundation Graduate Fellowships, and (3) interviews with Puerto Rican women working in the sciences.

Perspectives of Academic Personnel

The survey of minority academic personnel involved two questionnaires: The first was open-ended in format, the intention being to encourage respondents to write fully and freely about their views and experiences; the second questionnaire used a forced-choice format that was easy to complete and to score while at the same time offering meaningful alternatives derived from responses to the first questionnaire. (For a fuller description of the methodology, see the appendix.)

Of the 311 minority academic personnel who completed the second (forced-choice) questionnaire, 58 were Puerto Ricans, two-thirds of whom were male The Puerto Rican respondents tended to be younger than the other groups of minority respondents: 71 percent, compared with 55 percent of the total sample, were age 40 or under. They also tended to be less highly credentialed, probably because of their comparative youth: 14 percent had a baccalaureate or less, 32 percent had a master's, and only 28 percent (compared with 66 percent of the total sample) had a doctorate or professional degree. Close to half (48 percent, compared with 36 percent of the total sample) had received their highest degree in the field of education; 28 percent (compared with 22 percent of all respondents) were in the social sciences. Puerto Ricans were less likely than any other group to have majored in arts and humanities or in natural and health sciences. Of the 55 Puerto Ricans respondents who gave information on this point, 17 (31 percent) had as undergraduates attended college in Puerto Rico.

With respect to current employment, one Puerto Rican respondent gave no information, three worked in nonacademic jobs, and the remainder worked in academic institutions, the majority either in public four-year colleges (38 percent) or in two-year colleges (29 percent). About two-thirds said that the student body at their institution was predominantely white; 16 percent worked in predominantly black institutions; and 9 percent were employed at institutions where Puerto Ricans constituted the dominant racial/ethnic group.

Of those who indicated faculty ranks, three-fourths were instructors or assistant professors. Of those who indicated administrative or staff titles, only four (6.8 percent) held top-level campuswide positions (e.g., president, vice-president, dean, associate or assistant dean), and only two (3.4 percent) chaired traditional academic departments. Puerto Ricans were more likely than other respondents to be counselors or advisors (16 percent, versus 7 percent of the total sample). The next most common position was that of director or head of a minority-related program (i.e., Puerto Rican Studies). (For a table showing the characteristics of the total sample and of each of the four minority groups, see the appendix.)

The following tables present results from the second (forced-choice) questionnaire. For the purpose of illustration, some of the written comments from the first (open-ended) questionnaire are cited.

Personal Experiences

Respondents were asked to indicate which of eleven listed "experiences or factors" had encouraged them to complete a bachelor's degree and to pursue graduate study; they were also asked which of nine factors had constituted barriers of problems to them as undergraduates and as graduate students. In each case, respondents were told to choose the three most important factors and to rank them in order of importance.

As Table 35 shows, family encouragement was the most crucial factor of baccalaureate completion. The following comments are typical:

> The assumption and demand on the part of my family that I would complete the degree.
>
> Family support and encouragement. There was never any question as to whether I would [complete college] or not.
>
> Encouragement and motivation by my family. They valued education as an inherent virtue and also saw it as a means to escape poverty.

Next in importance were educational goals and interests. "I enjoy learning," wrote one respondent, "and the late 60s and early 70s were a stimulating time to be in college."

Other relatively important facilitators of baccalaureate completion were financial aid ("the scholarships and stipends that became available in the 60's aimed at minorities"), job/career and economic goals ("my interest in attaining an improved life style as well as increasing my earning power"), and personal challenge ("the personal need to gain respect and to be a productive and contributing individual").

Table 35

Factors Facilitating Baccalaureate Completion
Among Puerto Rican Respondents
(N=58)

Facilitator	Percentage Ranking: 1	2	3	1-3
Family encouragement: tradition, expectation, support from family or particular family member	41.4	8.6	6.9	56.9
Financial aid: grant, scholarship, fellowship, low-interest loan, assistantship, GI Bill benefits	15.5	13.8	8.6	37.9
Job/career and economic goals: to achieve a career goal, expand job options, advance in my job, increase my earning capacity	12.1	13.8	12.1	37.9
Strategic need: to establish my credibility, to achieve an independent position with policy- and decision-making powers	1.7	1.7	3.4	6.9
Community service: to acquire training that would enable me to better serve my people and minority communities	5.2	10.3	15.5	31.0
Educational goals and interests: desire to continue my education, expand my knowledge, study a particular field	12.1	19.0	15.5	46.6
Personal challenge: determination and motivation to prove I could do it	6.9	17.2	13.8	37.9
Teacher/school support: encouragement from my teacher(s); positive academic experience	--	5.2	8.6	13.8
Support and influence of other individuals: peers, role models, co-workers, some other person who encouraged me	1.7	5.2	3.4	10.3
Opportunity: availability of conveniently located, low-cost public education; job release time to earn a degree; special program of interest to me offered	3.4	1.7	10.3	15.5
Logical "next step": continuing in school seemed the most attractive option open to me and a means of figuring out what careers were of interest to me	1.7	5.2	6.9	13.8

Financial concerns loomed large as a problem during the undergraduate years (Table 36). The kinds of pressures experienced by respondents are described in the following comments:

> My major obstacle was the need to work full time while attending classes full time. As a full-time substitute in the main Post Office of New York, I was regularly asked to work ten hours a day, six days a week. Sometimes they pushed it to seven days a week. There was little time to respond to the demands of a full course load, of a growing family, and of a federally mandated condition of slavery.
>
> Although I was fortunate enough to receive financial aid, money problems were a constant threat to pursuing my studies.
>
> I had to pick a college where I could commute to school and live at home. At the same time I was enrolled in a full-time curriculum, I also worked at a full-time job at night and during the summer.

Other major problems included faculty composition and attitudes and institutional indifference:

> Lack of orientation and guidance. Had I had someone to go to and discuss alternatives, I could have taken more advantage of my college years.
>
> The apathetic attitude the institution showed toward minority problems and needs.
>
> Lack of supporting services in terms of counseling, advisement, social and cultural activities.

As Table 37 indicates, enrollment in graduate or professional school was often motivated by career-related considerations:

> I realized that having only a bachelor's degree would lead to nowhere; thus, I decided to get a master's as a first step in securing a professional position.
>
> After six months of unemployment, I realized that a BA was no longer sufficient to make it in the job market.
>
> I have been working for ten years in a higher education institution, and I have learned that if I don't continue my education to obtain a higher rank or title, I will continue to be one of the worst-paid employees.

Table 36

Barriers Encountered by Puerto Rican Respondents as Undergraduates
(N=58)

Barrier	Percentage Ranking: 1	2	3	1-3
Financial concerns, including problems created by having to work during the school year	43.1	10.3	13.8	67.2
Educational preparation: poor academic and/or study skills; difficulty dealing with competitive pressures	3.4	6.9	6.9	17.2
Social isolation and loneliness: few or no peers of my ethnic/racial background; no local minority community	6.9	5.2	13.8	25.9
Faculty composition and attitudes:lack of professors who could relate to me and with whom I could identify; feeling stereotyped, neglected, or patronized by faculty members	8.6	13.8	17.2	39.7
Lack of courses, curriculum materials, methodological approaches, and research opportunities that addressed minority concerns, issues, and needs	5.2	3.4	3.4	12.1
Emotional adjustment: lack of self-confidence, discipline, sense of purpose or motivation; fear of failure	8.6	15.5	5.2	29.3
Institutional indifference: poor or no academic, career, or personal guidance; lack of individual attention or support	10.3	13.8	10.3	34.5
Culture shock: having to figure out and adjust to a totally new environment with unfamiliar expectations, values, rules, and regulations	1.7	6.9	6.9	15.5
Family responsibilities and problems	6.9	6.9	12.1	25.9

Table 37

Factors Encouraging Graduate or Professional School Attendance Among Puerto Ricans Respondents

(N=50)

Facilitator	Percentage Ranking: 1	2	3	1-3
Family encouragement: tradition, expectation, support from family or particular family member	10.0	4.0	10.0	24.0
Financial aid: grant, scholarship, fellowship, low-interest loan, assistantship, GI Bill benefits	10.0	16.0	10.0	36.0
Job/career and economic goals: to achieve a career goal, expand job options, advance in my job, increase my earning capacity	34.0	12.0	18.0	64.0
Strategic need: to establish my credibility, to achieve an independent position with policy- and decision-making powers	12.0	10.0	10.0	32.0
Community service: to acquire training that would enable me better to serve my people and minority communities	8.0	16.0	22.0	46.0
Educational goals and interests: desire to continue my education, expand my knowledge, study a particular field	22.0	8.0	20.0	50.0
Personal challenge: determination and motivation to prove I could do it	12.0	12.0	24.0	48.0
Teacher/school support: encouragement from my teacher(s); positive academic experience	--	4.0	6.0	10.0
Support and influence of other individuals: peers, role models, co-workers, some other person who encouraged me	--	4.0	10.0	14.0
Opportunity: availability of conveniently located, low-cost public education; job release time to earn a degree; special program of interest to me offered	--	6.0	2.0	8.0
Logical "next step": continuing in school seemed the most attractive option open to me and a means of figuring out what careers were of interest to me	2.0	4.0	4.0	10.0

Other considerations that played a major role in the decision to continue beyond the baccalaureate were educational goals and interests, personal challenge, community service, and financial aid. But relatively few said that family encouragement and support prompted their enrollment in graduate school, that they were encouraged by their teachers to continue beyond the baccalaureate, or that attending graduate school was simply the "logical next step."

Financial concerns (including the need to work while attending school) continued to be the biggest obstacle for Puerto Ricans as they went beyond the baccalaureate (Table 38). In fact, the proportion saying that finances ranked among their top three problems was even higher at the graduate level (72 percent) than at the undergraduate level (66 percent). Faculty composition and attitudes also continued to constitute problems. One man who went to Harvard for his graduate degree commented:

> Since some minority students were admitted with lower [test] scores, some instructors felt that all minority students were less qualified than white students.

The third most frequently mentioned problem at the graduate level was social isolation.

Another item on the questionnaire asked: "Do you feel that because of your race/ethnicity you face problems of have responsibilities above and beyond those of Anglo professionals in comparable positions?" Again, respondents were asked to rank the three most significant problems from a list of eight options.

As Table 39 indicates, the problem most frequently ranked first (by one-quarter of the respondents) was gaining the acceptance and respect of one's colleagues. The difficulty connected with establishing professional credibility is described in the following comments:

Table 38

Barriers Encountered by Puerto Rican Respondents As Graduate or Professional Students

(N=50)

Barrier	Percentage Ranking: 1	2	3	1-3
Financial concerns, including problems created by having to work during the school year	48.0	12.0	12.0	72.0
Educational preparation: poor academic and/or study skills; difficulty dealing with competitive pressures	6.0	4.0	6.0	16.0
Social isolation and loneliness: few or no peers of my racial/ethnic background; no local minority community	10.0	4.0	18.0	32.0
Faculty composition and attitudes: lack of professors who could relate to me and with whom I could identify; feeling stereotyped, neglected, or patronized by faculty members	12.0	22.0	12.0	46.0
Lack of courses, curriculum materials, methodological approaches, and research opportunities that addressed minority concerns, issues, and needs	10.0	4.0	14.0	28.0
Emotional adjustment: lack of self confidence, discipline, sense of purpose or motivation; fear of failure	4.0	6.0	10.0	20.0
Institutional indifference: poor or no academic, career, or personal guidance; lack of individual attention or support	2.0	12.0	12.0	26.0
Culture shock: having to figure out and adjust to a totally new environment with unfamiliar expectations, values, rules, and regulations	8.0	6.0	8.0	22.0
Family responsibilities and problems	4.0	10.0	10.0	24.0

Table 39

Special Problems Encountered as Non-Anglo Professionals by Puerto Rican Respondents (N=58)

Special Problem	Percentage ranking: 1	2	3	1-3
Gaining acceptance and respect of my colleagues; disproving the assumption that I'm less competent; establishing professional credibility	29.3	6.9	8.6	44.8
Lack of institutional/professional support and recognition for research and teaching connected with minority issues, including involvement with ethnic studies	6.9	6.9	12.1	25.9
Being stereotyped and used as the "minority expert," having limited opportunities for professional advancement to a more broad-based and influential position	17.2	19.0	15.5	51.7
Lack of other minorities to accomplish all that needs to be done, to serve as institutional watchdogs and advocates for change, and to develop a support network among ourselves	19.0	12.1	10.3	41.4
Institutional ethnocentrism: ignorance of and insensitivity to other cultures, their perspectives and values, and their capacity to enrich the academic environment	5.2	20.7	22.4	48.3
Promotion system that ignores time- and energy-consuming involvements with minority students and issues on campus and with the off-campus minority community	10.3	8.6	17.2	36.2
Lack of real institutional commitment to recruiting and retaining minority students and staff and the erroneous assumption that to do so means to sacrifice academic standards	12.1	6.9	25.9	44.8
Professional invisibility: the institution's tendency to overlook minorities when it comes to promotions and professional opportunities and to ignore their ideas and suggestions about changes in policies and practices	--	15.5	6.9	22.4

> There is frequently no presumption of competence from majority peers; one has to justify one's professionalism constantly. Also, a frequent assumption by majority individuals is that one's job was obtained because of one's ethnicity, not one's competence.
>
> There is a prevailing attitude among my peers that I am in my position on account of political reasons (tokenism, quotas, etc.) and so that I am not as competent as they.

Being stereotyped and used as the "minority expert" was another pervasive problem for Puerto Rican faculty and administrators. The problem takes various forms:

> One is always seen as a "minority" and is assigned certain attributes. One is also always a "spokesperson" for one's people.
>
> Since the institution does not have adequate support services for minority students, I have found that I must become a jack-of-all-trades, thus causing me to be overcommitted at times.
>
> I am stereotyped into special programs which yield no chance of promotion.
>
> I have to be especially careful to avoid being pigeonholed into bilingual teaching exclusively. The tendency is to see your worth only in terms of ESL [English as a Second Language] or bilingual courses when your education is more standard English.

Institutional ethnocentrism was also seen as a major problem, though it was usually ranked second or third in importance rather than first. One respondent said that students as well as other faculty members manifested a racist attitude toward minority teachers. Another spoke of the "paternalistic" and "patronizing" attitudes of his colleagues. Still another saw himself as "a threat to the clubhouse establishment." One woman catalogued the kinds of bias she is exposed to:

> As a Puerto Rican woman involved in labor education, I feel I have three strikes against me. I know universities and colleges discriminate on the basis of ethnicity/race and sex, and in addition I am in a field which has always been under attack by employers (and hence universities).

Puerto Ricans were also likely to say that the lack of other minority faculty constituted a problem for them and that the promotion system discriminated against them. In short, even though they have proved their competence by their high achievement, Puerto Ricans (and other minorities) employed in academic institutions still encounter problems that Anglo academics do not face.

General Views

Respondents were asked to express their opinions as to the "biggest problems of obstacles affecting the educational attainment" of young men and women of their racial/ethnic background. Out of a list of 16 possible factors, the two ranking at the top were the same for both sexes: (1) poor educational preparation for college work and (2) financial problems (Tables 40 and 41). With respect to the first, the following comment is typical:

> Very deficient basic skills preparation. I have been working with [a program for minority students] for the past three years, and their knowledge of arithmetic, reading, and writing of English is extremely deficient.

Other factors seen as hindering the academic attainment of young Puerto Ricans of both sexes are lack of role models in the community and among college faculty; poor guidance and counseling; and lack of family and student information about how the educational system works. On the other hand, few respondents viewed peer pressure against academic achievement or social isolation as major problems for young Puerto Ricans.

In addition to their shared problems, each sex faces somewhat special problems, according to respondents. Thus, young Puerto Rican men are viewed as more likely than their female counterparts to experience self-concept or identity problems and problems stemming from inadequate motivation or direction:

Table 40

Perceived Obstacles to the Educational Attainment of Young Puerto Rican Men (N=58)

Obstacle	Percentage Ranking: 1	2	3	1-3
Poor educational preparation for college work; the poor or deteriorating quality of the public schools	36.2	12.1	20.7	69.0
Financial problems; reduced availability of fellowship and scholarship assistance for needy minority students	15.5	22.4	13.8	51.7
Lack of role models in home communities and among college faculty	3.4	10.3	13.8	27.6
Demands and conflicts created by early marriage and multiple roles: student, spouse, parent or single parent, employee	--	5.2	8.6	13.8
Lack of equal access and educational opportunity, including admissions test biases and underrepresentation in the more selective four-year colleges	3.4	3.4	12.1	19.0
Self-concept or identity problems: low self-confidence or self-esteem, feelings of inadequacy or powerlessness	12.1	6.9	8.6	27.6
Lack of family and student understanding of and information about how the educational system works and what its benefits can be; lack of awareness of educational options and opportunities	12.1	5.2	3.4	20.7
Inadequate motivation or direction: restricted or ill-defined goals, passivity, lack of discipline and determination	8.6	6.9	10.3	25.9
Poor guidance and counseling, including tracking into vocational and service-oriented courses and programs	1.7	6.9	17.2	25.9
Social isolation, loneliness, lack of social acceptance, and limited opportunities to meet and date minority peers	1.7	1.7	1.7	5.2
Upbringing that encourages women to be dependent, submissive, and nonassertive and that discourages them from intellectual achievement	--	--	5.2	5.2
Figuring out how to survive in the educational system while remaining committed and responsive to the needs of their people/communities	3.4	5.2	10.3	19.0
Educational system's lack of appreciation and understanding of their cultural background and values; the omission of their cultural heritage from the curriculum	1.7	1.7	5.2	8.6
Lack of support in the schools for intellectual development; instructors with low standards and expectations for minority students	3.4	3.4	8.6	15.5
Peer pressure against academic achievement	--	3.4	1.7	5.2
Sexist or chauvinistic attitudes and behaviors toward women	--	--	5.2	5.2

Table 41

Perceived Obstacles to the Educational Attainment of Young Puerto Rican Women (N=58)

Obstacle	Percentage Ranking: 1	2	3	1-3
Poor educational preparation for college work; the poor or deteriorating quality of the public schools	29.3	8.6	19.0	56.9
Financial problems; reduced availability of fellowship and scholarship assistance for needy minority students	10.3	17.2	12.1	39.7
Lack of role models in home communities and among college faculty	5.2	6.9	13.8	25.9
Demands and conflicts created by early marriage and multiple roles: student, spouse, parent or single parent, employee	6.9	8.6	17.2	32.8
Lack of equal access and educational opportunity, including admissions test biases and underrepresentation in the more selective four-year colleges	1.7	5.2	10.3	17.2
Self-concept or identity problems: low self-confidence or self-esteem, feelings of inadequacy or powerlessness	5.2	5.2	8.6	19.0
Lack of family and student understanding of and information about how the educational system works and what its benefits can be; lack of awareness of educational options and opportunities	8.6	3.4	10.3	22.4
Inadequate motivation or direction: restricted or ill-defined goals, passivity, lack of discipline and determination	5.2	3.4	5.2	13.8
Poor guidance and counseling, including tracking into vocational and service-oriented courses and programs	3.4	1.7	17.2	22.4
Social isolation, loneliness, lack of social acceptance, and limited opportunities to meet and date minority peers	--	1.7	5.2	6.9
Upbringing that encourages women to be dependent, submissive, and nonassertive and that discourages them from intellectual achievement	6.9	8.6	6.9	22.4
Figuring out how to survive in the educational system while remaining committed and responsive to the needs of their people/communities	1.7	3.4	12.1	17.2
Educational system's lack of appreciation and understanding of their cultural background and values; the omission of their cultural heritage from the curriculum	3.4	1.7	6.9	12.1
Lack of support in the schools for intellectual development; instructors with low standards and expectations for minority students	3.4	1.7	13.8	19.0
Peer pressure against academic achievement	--	1.7	1.7	3.4
Sexist or chauvinistic attitudes and behaviors toward women	--	3.4	6.9	10.3

> Hispanic men seem unable to see the need for education; they lack academic "stick-to-it-iveness" and have grave deficiencies academically.
>
> I believe that some [young men] feel that reading and studying are feminine activities. The "machismo" seems to prevent them from aspiration (i.e., a long education or schooling).

The special problems faced by young Puerto Rican women include the demands and conflicts created by early marriage and multiple roles; an upbringing that encourages women to be dependent, submissive, and nonassertive and that discourages them from intellectual achievement; and sexist attitudes and behaviors toward women. Specific comments were as follows:

> Many [young women] have families and usually prefer to stay at home. At times, however, they do come to school and drop out because they cannot make it with a family.
>
> [They have] disciplinary problems in the classroom stemming from the home. Teenage pregnancy due to minimal sex education.
>
> Establishing their identity as women in relationship with males and dealing with the conflicts of home and larger society. Limited goals relating to female roles. Conflicts between being perceived as intelligent, good students and at the same time as desirable young women attracted to males.
>
> Women face sex stereotyping about the supposed "traditional" roles of women; they are supposed to marry very early; education is allegedly of no value to them and is in fact a waste of resources.
>
> Women's problems are complicated and worsened by sexist practices and attitudes--Latin American culture's view of women . . . is a problem for some women.

Respondents were asked to indicate, from a list of nine alternatives, "the strengths of young people of your race/ethnicity." As Table 42 shows, strong cultural identity and a bicultural background were seen as the greatest assets of young Puerto Ricans:

> They adapt to two cultural groups, making them bicultural as well as bilingual. Combining old and new ideas to create innovative designs (artistic or programmatic), they are more receptive to change in societal development.

Table 42

Perceived Strengths of Young Puerto Ricans

(N=58)

Strength	Percentage Ranking: 1	2	3	1-3
Strong cultural identity, values, and pride; fresh perspective on issues that comes from their bicultural background	36.2	12.1	17.2	65.5
Strong family and community ties and support	22.4	12.1	8.6	43.1
Commitment to serving others, particularly their people and community	5.2	13.8	10.3	29.3
Desire and determination to succeed: motivation, patience, self-discipline, and perseverance	6.9	3.4	10.3	20.7
Resiliency and flexibility: ability to face and overcome obstacles, yet maintain their perspective and sense of humor	8.6	10.3	8.6	27.6
Sensitivity to and respect for others; cooperative, group-oriented attitudes and behaviors	3.4	13.8	13.8	31.0
Maturity, pragmatism, political awareness, assertiveness, willingness to question the status quo	1.7	1.7	5.2	8.6
Intelligence and curiosity; tremendous potential if encouraged and challenged	10.3	13.8	19.0	43.1
Bilingual skills and abilities	5.2	13.8	31.0	50.0

> Since they have a dual culture, they have two backgrounds to take from in times of need or perplexity.
>
> [They have] a fresh creative perspective born of their ghetto and Latin experience; intellectual and emotional energy in abundance.

The bilingualism of Puerto Rican young people was also seen as a major strength, though it was more often ranked second or third than first. Also mentioned by a sizable proportion of respondents were strong family and community ties; intelligence and curiosity; sensitivity to and respect for others; and commitment to serving others. These last two qualities are both touched on in the following comments:

> Understanding and senstivity toward the needs of people of other backgrounds.
>
> They are concerned about individuals rather than about humanity in the the abstract.
>
> They have an understanding of values and human relationship which carries over to their control of subject matter in the humanities.

Recommendations

As regards what higher education institutions can do to better serve Puerto Rican students, the two recommendations most frequently endorsed were "hire and promote/tenure minority faculty, counselors, and administrators" and "encourage college attendance" (Table 43). Many of the responses to the open-ended questionnaire made specific suggestions:

> Have a higher representation at all levels of academic life of persons of their own ethnic background.
>
> Bring in minority faculty, not only Hispanics but Blacks also, so that they can begin to trust the system.
>
> Provide more programs that reach into the Puerto Rican community, especially high schools, elementary schools if possible.
>
> Provide community programs geared toward increasing the number of Puerto Rican students in higher education (ie., career/professional workshops which may encompass remedial education).

Table 43

Recommendations to Improve Higher Education for Puerto Ricans
(N=58)

Recommendation	Percentage Ranking:			
	1	2	3	1-3
Hire and promote/tenure minority faculty, counselors, and administrators	25.9	5.2	10.3	41.4
Provide adequate financial aid advisement and support	15.5	12.1	6.9	34.5
Encourage college attendance; develop outreach and recruitment programs to inform students and parents about college benefits, opportunities and choices; provide access through conditional or open admissions; improve articulation between community and four-year colleges	22.4	6.9	12.1	41.4
Promote an understanding of and appreciation for minority cultures and the benefits of a pluralistic student body within the academic community; support activities that make these cultures and students visible	5.2	8.6	19.0	32.8
Emphasize quality: don't overprotect or demand less of minority students	3.4	8.6	15.5	27.6
Establish and/or support ethnic studies courses, programs, and/or departments	--	1.7	6.9	8.6
Integrate a multicultural perspective into the standard academic curriculum; correct the Euro-American bias of most courses	--	5.2	12.1	17.2
Demonstrate a commitment to affirmative action and equal opportunity: provide "hard" funding for minority faculty and programs and assess and monitor institutional practices and policies	3.4	19.0	15.5	37.9
Provide special support services and programs for minority students (e.g., student organizations, centers, or other gathering places; option for living groups)	1.7	1.7	10.3	13.8
Develop academic assistance and tutorial programs, including a nonpunitive system to identify and remediate academic deficiencies	6.9	10.3	19.0	36.2
Offer strong academic, career, and personal counseling services; provide information about career options in nontraditional fields	1.7	3.4	19.0	24.1
Work with minority communities to identify and meet their educational, research, and manpower needs; become actively involved in improving the elementary and secondary schools in minority communities	6.9	10.3	12.1	29.3
Accept and respect minority students as individuals with talent, potential, and a rich cultural heritage; don't try to Anglicize them	6.9	--	13.8	20.7
Orient minority students to college life, available resources, and expectations; teach them the skills needed to survive in college	1.7	5.2	15.5	22.4

The need for institutions to demonstrate a commitment to affirmative action and equal opportunity was mentioned by about two in five Puerto Rican respondents. The following comment expands on this theme:

> Insist of affirmative action and equal opportunity; investigate the practices used by college personnel to keep minorities out; monitor the monies assigned for minorities; they are often used for other things and other groups. I sincerely believe that we have gained more publicity than real progress since the 1960s. I think that minorities must get together in order to pressure the administration for real change.

Other favored recommendations included developing academic assistance and tutorial programs, providing adequate financial aid and advisement, and promoting understanding of and appreciation for minority cultures. More specific suggestions on this following point were as follows:

> Design and offer courses on interracial relations and urban community affairs. Provide opportunities for minority people to conduct such courses.
>
> Offer courses which provide cultural and social awareness of the particular ethnic group.

Summary

Consistent with their low socioeconomic status, Puerto Ricans are more likely than other minorities to encounter financial problems as they seek to advance through the higher educational system; those who complete the baccalaureate and go on to advanced study must often work at full-time jobs at the same time they are attending graduate or professional school, according to reports of Puerto Rican academic personnel. Moreover, they continue to experience problems as faculty members and administrators in colleges and universities: They often have difficulty gaining acceptance from their colleagues; they are stereotyped as "minority experts," leaving them little time for activities that would contribute to their professional advancement; and they must contend with institutional ethnocentrism.

Of greater interest perhaps are those factors that contributed to the high achievement of this group. The encouragement of their families seems to be the single most important factor in their completion of the baccalaureate. In addition, Puerto Rican academic personnel were likely to say that both college completion and enrollment in graduate or professional school were motivated by career/economic goals, by a desire to serve their communities, and by the challenge of proving themselves. Relatively few, however, attributed their success to encouragement from their teachers or to positive early educational experiences. In short, their high attainment seems to be accounted for by their own personal drive rather than by external factors.

Perspectives of Ford Fellows

The Ford Foundation launched its Graduate Fellowship Program in 1969 for the purpose of improving minority access to and participation in graduate education, especially high-quality and prestigious programs housed in distinguished universities. Since its inception, the program has awarded fellowships to some 1,650 minority students.

The data reported in this section are based on the responses of 125 Puerto Rican recipients of Ford Graduate Fellowships--part of a larger sample of 630 minority Ford Fellows--who completed a questionnaire asking for information on their educational and occupational experiences. (For a fuller description of this survey, see the appendix.) Of this Puerto Rican sample, 49 persons (39 percent) had attended an institution in the continental United States for their undergraduate work, and 76 persons (61 percent) had gone to college on the Island. Women constituted the majority (61 percent) of the former group, and men constituted the majority (59 percent) of the latter group. Of those who attended college on the

Mainland, 61 percent were currently living in the eastern region of the United States, 14 percent were living in Puerto Rico, and 8 percent were living in the Midwest. Of those who had attended college on the Island, 46 percent were currently living in Puerto Rico, 33 percent were living in the eastern U.S., and 10 percent were living in the Midwest. Relatively few from either group were currently residing in the South or the West.

As was the case with academic personnel, Puerto Rican Ford Fellows were a relatively young group: 18 percent (compared with only 9 percent of the total sample) were under the age of 29 when the completed the survey questionnaire; only 22 percent (compared with 35 percent of the total sample) were over the age of 35. Perhaps because of their relative youth, Puerto Rican Ford Fellows were somewhat less likely than were Ford Fellows from other minority groups to have completed the doctorate by the time of the survey: 46 percent, compared with 54 percent of the total sample of Ford Graduate Fellowship recipients.

Graduate School Experiences

Among Puerto Ricans who had attended college in the continental U.S., the most popular graduate institutions were Columbia, New York University, University of Michigan, University of Massachusetts, Rutgers, and the City University of New York's Graduate School and University Center. The most common choices among those who had done their undergraduate work on the Island were Harvard, NYU, Columbia, Berkeley, University of Chicago, Princeton, and the University of Puerto Rico. As Table 44 indicates, one-third of those who had attended Mainland colleges, compared with only 9 percent of those who had attended Island colleges and 20 percent of the total sample of Ford Fellows, majored in education at the graduate level; graduates of Island colleges, on the other hand, were more likely to major in the natural

Table 44

Graduate Fields of Ford Fellows
(percentages)

Graduate Field	Puerto Ricans: Attended Mainland College (N=49)	Puerto Ricans: Attended Island College (N=76)	Puerto Ricans: Total (N=125)	All Respondents (N=630)
Biological sciences	4	13	10	7
Physical sciences/mathematics	6	9	8	9
Social sciences	31	33	32	31
Psychology	8	8	8	10
Education	33	9	18	20
Humanities	16	20	18	17
Ethnic studies	0	0	0	2
Other	0	6	4	3

sciences. Otherwise, the two groups of Puerto Ricans did not differ much from one another or from the total sample of respondents with respect to graduate field.

A major purpose of the Ford Graduate Fellowship Program was to provide minority students with sufficient financial support so that they could attend the graduate institution of their choice. As Table 45 shows, the program seems to have achieved this purpose in that over 90 percent of the Puerto Rican recipients said they could not have gone to their preferred institution without the graduate fellowship. Having a job and getting student loans during graduate school were crucial factors for the majority of those Puerto Ricans who were graduates of Mainland colleges but not for those who were graduates of Island colleges. Indeed, Island Puerto Ricans were less likely than any other minority group to say that the opportunity for employment was an important factor in their choice of a graduate institution, perhaps because many of them got additional financial assistance from the University of Puerto Rico and so did not have to work during graduate school. One condition of this UPR support seems to have been that the recipient return to teach at the University for several years.

Slightly over half the Puerto Ricans, compared with three-fourths of the total sample of Ford Fellows, indicated that they had worked at some point during their graduate years (Table 46). Graduates of Mainland colleges were more likely than were graduates of Island colleges to have worked and to say that their work was related to their graduate programs but less likely to say that they were employed on campus. Puerto Ricans were more likely than others to have taken loans to help pay educational costs during graduate school (55 percent, compared with 48 percent of the total sample). In addition, about

Table 45

Factors Affecting Ford Fellows' Ability to Attend First-Choice Institution

(percentages)

	Puerto Ricans			
Factor	Attended Mainland College (N=49)	Attended Island College (N=76)	Total (N=125)	All Respondents (N=630)
Fellowship support	91	91	91	87
A job	67	41	51	63
Family/parental support	37	37	37	31
Student loans	57	46	50	45
Spousal support	31	33	32	33

Table 46

Ford Fellows' Work Experience During Graduate School
(percentages)

Work Experience	Puerto Ricans: Attended Mainland College (N=49)	Puerto Ricans: Attended Island College (N=76)	Puerto Ricans: Total (N=125)	All Respondents (N=630)
Worked during graduate school	59	51	54	76
Work was related to doctoral program	55	38	45	55
Worked at an on-campus location	27	40	34	48
Department required all students to have assistantship experience	22	22	22	26

one-fifth got some kind of university award (scholarship, fellowship, assistantship), and 16-17 percent got an award from some other source (national association, other foundation, government agency); these figures are similar to those for the total sample of Ford Fellows.

Table 47 summarizes important features of the graduate experience. Graduates of Island colleges were more likely than graduates of Mainland colleges to say they had a faculty mentor but less likely to say the mentor was a minority-group member. Further, a substantially greater proportion of Island than of Mainland college graduates felt that having a Ford Graduate Fellowship improved their relationships both with faculty and with other students. The two groups did not differ in their perceptions of the departmental environment, except that those from Mainland colleges were much more likely to be dissatisfied with the quality of academic advisement.

Finances constituted the greatest source of difficulty in graduate school for Puerto Rican (and other) Ford Fellows, being cited by 65 percent of those who had attended Mainland colleges and by 59 percent of those who had attended Island colleges (Table 48). About one-third of both groups mentioned deficiencies in writing skills, difficulties in writing the dissertation, and family obligations as problem areas. Those from Mainland colleges encountered greater difficulties with research methods and with research for the dissertation, whereas those from Island colleges tended to mention problems with course requirements and with foreign language requirements more frequently. Several respondents indicated other types of obstacles:

> Anxiety delayed completion of work at least 1½ years.
>
> Getting used to language and change of culture.

Table 47

Departmental Climate and Faculty Relationships Reported by Ford Fellows

(percentages)

	Puerto Ricans			
	Attended Mainland College (N=49)	Attended Island College (N=76)	Total (N=125)	All Respondents (N=630)
Mentorship:				
Had a faculty mentor	57	64	62	57
Mentor was a minority	25	16	19	25
Environment:				
There was usually a great deal of competition for grades	43	43	43	42
There was usually a great deal of freedom to determine my own program of study	61	58	59	57
Faculty usually stimulated or rewarded the development of different points of view	39	42	41	38
Academic advisement was usually very good	28	45	36	37
Student-faculty interaction was usually very good	39	45	42	42
Effect of fellowship:				
Positive effect on relationships with departmental faculty	49	61	56	55
Positive effect on relationships with fellow students	29	41	36	33

Table 48

Sources of Difficulty for Ford Fellows in Graduate School

(percentages)

	Puerto Ricans			
Source of Some or Major Difficulty	Attended Mainland College (N=49)	Attended Island College (N=76)	Total (N=125)	All Respondents (N=630)
Writing skills	33	34	34	31
General course work	8	13	11	17
Doctoral proposal oral examination	22	21	22	20
Doctoral qualifying/comprehensive examination	24	19	21	23
Foreign language requirement	4	11	8	16
Research methods	28	18	22	27
Dissertation research	35	28	30	29
Dissertation (final write-up)	35	37	36	33
Finances	65	59	62	59
Relationship with spouse	18	20	19	24
Pregnancy	8	7	7	11
Other family obligations	35	30	32	34

> Too much emotional stress experienced due to the fact that I had to perform exceptionally; that is, I had to live up to the status of a Ford Graduate Fellow.

The questionnaire included open-ended items asking Ford Fellows to indicate the most positive and the most negative aspects of their graduate school experience. Frequently mentioned as positive were the freedom and autonomy that graduate school allows:

> There was maximum flexibility for tailoring a program suited to my interests and needs. This included taking courses in other departments. I was left much on my own, and this was to my advantage in pursuing my goals.
>
> Freedom to do research following my own interest across disciplinary boundaries.
>
> Having had the flexibility of a graduate school program which afforded me the opportunity to pursue research interests and clinical skills with Hispanic and minority populations.

Several Puerto Ricans who had gone to college on the Island found that attending graduate school on the Mainland helped to expand their horizons. The following comment is typical:

> The most positive aspects were the exposure to a wide range of fields directly or indirectly related to mine; the opportunity to get to know many people of different cultures and interests; . . . learning to handle English fluently; and . . . getting to travel through the States and Canada both for research/professional purposes and for pleasure.

Both groups of respondents emphasized interpersonal relationships as a source of satisfaction:

> The opportunity to interact with students and faculty from other ethnic backgrounds, which helped me gain insight about cultural diversity.
>
> Being in New York City, meeting some of my professors and fellow students, and being able to develop a sustained personal relationship with some of them.
>
> Excellent exchange of ideas with fellow students from all corners of the world.

Other respondents mentioned some specific relationship:

> My experience with my mentor, who has been very supportive in spite of the general indifference of the department.
>
> An outstanding chairman with a very special concern for his students.
>
> Relationship with my dissertation advisor, a learning experience that transcended the thesis.

The sense of personal accomplishment, of having proved themselves in a highly competitive atmosphere, was also emphasized by many respondents as a positive aspect of their graduate training:

> Being able to learn new ideas . . . in a highly competitive atmosphere in which I was able to feel "up to par." It was an invaluable experience in which I was able to grow and mature tremendously in both personal and academic levels. I was able to do very well in the program through my own efforts and proved my capabilities to some who may have originally questioned them because of my minority status. It was hard work, but it was enjoyable and worthwhile.
>
> The realization that I was as intelligent as my white Anglo peers, who had received better schooling.
>
> The satisfaction of achieving my educational goals after 20 years of child rearing, and getting the opportunity to use my intellectual abilities to their fullest.
>
> Being able to complete a very competitive and sometimes demoralizing program.

Among the negative aspects of graduate training, the competitive atmosphere was frequently mentioned:

> I find students extremely competitive and uncooperative. Gossip, envy, and backstabbing are common occurrences. I can't say it is because I'm a minority. I've observed the same type of behavior among White Americans. The environment is intolerable. One ends up being very isolated.
>
> Too much stab-in-the-back competition from U.S. students.
>
> Having to deal with cutthroat competition from other students.

Racism, prejudice, ethnocentrism, and narrow-mindedness also constituted negative aspects:

> The racist attitudes of some students. (I was the only Puerto Rican out of 130 graduate students.)

> Subjected to subtle, but nonetheless prejudiced--indifferent, arrogant, insensitive--treatment.
>
> The realization, rather late perhaps, that there is something very hard about being Puerto Rican, which becomes more difficult when every accomplishment is measured against this fact. A stranger in a strange land, indeed.

The following criticisms were leveled at the faculty:

> I found that critical thinking was almost never well received by faculty in the graduate program.
>
> The lack of faculty interest in really teaching, and their poor guidance/advisement.
>
> The limited degree of interaction and support between faculty and students.
>
> The overall prevalence of conservative points of view among faculty and administration and the absence of commitment to Third World people's oppressive conditions--both in U.S. and other countries.

As negative aspects, a number of respondents mentioned "economic hardship," "being poor," "money matters," and "financial insecurity." Several said they had had to take jobs to support themselves (and sometimes their families) and thus were subjected to heavy time pressures. Some of the women experienced special problems caused by multiple-role demands:

> Trying to be a mother, wife, full-time student, and daughter at the same time with little help from others.
>
> The need to plan studies around work and childcare and my consequent inability to participate in the activities of the school (e.g., seminars, lectures, parties, conferences).
>
> The overall tensions of being graduate student, wife, mother, daughter, etc.
>
> Mainly personal problems, such as being single mother of two school-age sons.
>
> Intellectual achievement contributed to the demise of my 26-year-old marriage. . . . I changed from rigid, compliant wife to a more fluid, assertive woman and there was no room for the role change. My husband perceived my educational growth as selfish and ambitious.

Several respondents to the questionnaire expressed appreciation to the staff of the Ford Foundation for financial and psychological support during graduate school, but one recipient was critical of the program, saying that his fellowship support

> was cut off at the most critical aspect of the research-dissertation process. The financial stress that the Ford Fellowship was supposed to relieve was greatly exacerbated as the result of a reversal, abruptly instituted, on the approval of dissertation research funds.

Current Employment

At the time of the survey, 57 percent of the Puerto Rican Ford Fellows, compared with 64 percent of the total sample, were employed full time. Of this group, four in five of those who had attended college in Puerto Rico were currently working in academic institutions, the majority of them on the Island (the University of Puerto Rico, Inter American University, Catholic University of Puerto Rico). Of those full-time workers who were graduates of Mainland colleges, 72 percent were employed in higher education institutions, with the City University of New York being the prime employer, though five people from this group worked in Puerto Rican institutions. Other employers of Puerto Rican Ford Fellows included public service organizations (7 percent), government agencies (4 percent), elementary and secondary school systems (3 percent), private-sector firms (3 percent), and research organizations (3 percent).

Table 49 shows the academic rank and employment status of those Puerto Rican Ford Fellows who were working for higher education institutions at the time of the survey. Puerto Ricans were less likely than were Ford Fellows from other minority groups to hold high rank (associate professor, full professor). A larger proportion of those who attended Mainland colleges (50 percent) than of those who attended Island colleges (30 percent) were at the

Table 49

Rank and Employment Conditions of Ford Fellows Currently Working in Academic Institutions

(percentages)

	Puerto Ricans			
	Attended Mainland College (N=25)	Attended Island College (N=40)	Total (N=65)	All Respondents (N=299)
Rank:				
Instructor	50	30	37	20
Assistant professor	40	54	49	57
Associate professor	10	11	11	19
Full professor	0	5	3	4
Employment Conditions:				
Hold full-time position	72	80	77	81
Hold tenure-track position	61	66	63	68
Currently have tenure	20	25	23	22
Teach at two or more colleges	15	12	14	10

lowest rung of the academic ladder (instructor). Graduates of Island colleges were somewhat more likely than those from Mainland colleges to work full time, to hold tenure-track positions, and to have achieved tenure.

Perspectives of Women Scientists

The third source of information on high-achieving Puerto Ricans was a study of both white and minority women who are currently working in science, mathematics, or engineering. Funded by the National Science Foundation and directed by Rita A. Scherrei with Patricia P. McNamara, this study aimed at identifying background characteristics and educational experiences associated with women's choosing and entering careers in these male-dominated fields. It involved secondary analysis of data collected in the present project, as well as intensive interviews with thirty women scientists, seven of whom were Puerto Rican. The following discussion is based on the interview material, which obviously cannot be regarded as representative but which nonetheless offers useful insights into the lives of these women, particularly the factors that influenced their outstanding accomplishment and the barriers they encountered.

The seven women range in age from mid-twenties to mid-thirties. One has a medical degree, one a degree in dentistry and a master's in public health, one a master's in computer science, and four hold the doctorate (the fields represented are biochemistry, biology, botany, and chemistry). One is currently employed in an academic institution, two work in the private sector (one for a large company and the other in private practice), three work in federal research agencies, and one works for a municipal museum. Five are engaged in work activities directly connected with the field of their highest degree, one is a director of scientific publications, and one is an affirmative action officer. Five are currently married and living with their husbands; only one of these women has a child. One is separated from her husband and has a nine-year-old daughter. One is single but engaged to be married.

Family Backgrounds

The general backgrounds of these seven women are indicative of the diversity, mobility, and bilinguality of the Puerto Rican population. The biochemist and the biologist were "army brats" who traveled around in their early years (in Europe and the U.S.); both lived in Puerto Rico from high school through college. The biochemist came from a bilingual home ("My parents spoke to us in Spanish, and we answered in English"), and the biologist spoke Spanish in the home and learned English in high school; neither encountered any particular difficulty with language when she came to the Mainland for her graduate education. The computer scientist and the botanist were born in Puerto Rico and attended school there through the baccalaureate; both spoke Spanish in the home. The computer scientist had studied English in the Puerto Rican public schools but was not fluent in the language when she took a job in the continental U.S. The botanist, who had attended a Catholic high school in which most of the teaching nuns were from the Boston-Philadelphia area, says that people are often confused by her fluency: "When you tell them you're Puerto Rican, they expect someone with a heavy Spanish accent. When you don't have that, you don't fit their stereotype of what a Puerto Rican should be." The dentist was born and raised on the Mainland; her mother still cannot speak English well and so has a "communication problem" with her children. The chemist was born in Puerto Rico and came to New York City when she was about six years old; both Spanish and English were spoken in her home, but she now has difficulty reading and writing Spanish. The physician, who was born in Puerto Rico and came to the Mainland at age twelve, reports that her father always spoke to the children in English (though her mother used Spanish) and that he insisted the children not be promoted in school until they had mastered English.

With respect to socioeconomic status, three of the women (two of them raised on the Mainland) describe their family backgrounds as lower-middle-class or poor; and four came from middle-class backgrounds ("not rich, not poor"). Two women (both of them raised on the Mainland) report that their father were blue-collar workers (a laborer and an electrician); two fathers were career army men; one father was a car salesman; one, an insurance agent; and one, a teacher-administrator. Three of the women (two of them raised on the Mainland) report that their mothers never worked outside the home; two mothers were teachers; one was a registered nurse; and one (the mother of the woman who had been born and raised in the continental U.S.) was a sewing machine operator in a factory. Consistent with the material presented in Chapter 5, then, those women who attended school through college in Puerto Rico and came to the Mainland relatively late in their lives tended to come from relatively high socioeconomic backgrounds, whereas two of the three schooled in the continental U.S. came from relatively deprived backgrounds.

Only two of the fathers were college graduates; and several parents were high school dropouts, though in some instances they had later completed their secondary school education and even gone on to college. For instance, the mother of the computer scientist left high school to get married but later earned her diploma; after joining the Head Start program as a teacher, she entered the University of Puerto Rico and has very recently received her baccalaureate.

Thus, most of the parents valued education highly, expected their children to attend college, and supported their decision to take advanced training. For instance, the physician attributes her own interest in a medical career to her father's one-time ambition to become a doctor; as the eldest of four daughters, "I always got a lot of the energy and push he would have given a son." The biochemist believes that the army broadened her parents' outlook to the point where they encouraged all three of their daughters to get as much education as possible (her older sister is an occupational therapist, and her younger sister is a physician). The single exception, who describes her parents as "very traditional," says they did not oppose her attending college but were unhappy about her decision to take advanced training, fearing that she would be unable to find a man willing to marry a successful professional woman. Moreover, only one of her three brothers even wanted to go to college, and he dropped out during his first year, so her own achievement "brings up a lot of conflicts for my parents and my brothers."

Educational Background

Interest in the sciences tended to develop early. For example, one woman remembers playing with chemistry sets and microscopes as a child, and another recalls doing a fifth-grade science project on sunspots. The botanist, whose father returned to college to get a baccalaureate in science, often went along with him to his university classes when she was young; since her mother taught science at the elementary/junior high level, she "was brought up in an environment where science was normal, an everyday kind of happening."

All the women did well in science and mathematics during high school. The chemist participated in a National Science Foundation summer program at Hunter just before her junior year in high school, and several others were in special honors programs that allowed them to take advanced work. Although most judged their high school science education to be adequate (and in some cases outstanding), virtually all of them also said that educational and vocational guidance services were poor. One reports that her counselors actively discouraged her from applying to college, and several found the materials available on career opportunities to be limited, conventional, uninformative, and sexist.

Four of the seven women did their undergraduate work at the University of Puerto Rico (two at Rio Piedras and two at Mayaguez); two attended the City University of New York (one at Hunter and the other at Lehman, then called Hunter in the Bronx); and one attended Fairleigh Dickinson (New Jersey). All seven did their graduate work in the continental U.S. The physician attended a New York medical college with which she is still connected as an assistant professor of surgery. The dentist attended dental school at Fairleigh Dickinson and then went to Boston University for a master's degree in public health. One, who grew up and attended college in New York, went to Massachusetts Institute of Technology for advanced study because the top man in her field was there. Of the four women who had done their undergraduate work in Puerto Rico, two attended Johns Hopkins University for graduate work (one of them taking evening classes in order to earn a master's degree in computer science); one went to the University of North Carolina and also took some classes at Duke University; and the fourth went to the medical campus of a state university system. For these four women, the move from the Island to the

Mainland was often difficult. For instance, after the computer scientist had accepted a job in the continental U.S.,

> I had to deal with the problem of my family letting me come up here by myself. . . . Until the last minute, they didn't believe it. They cried for three days when I came up. It was a shock for them, but I did it and I don't regret it.

Another says that at first she felt "despair because Puerto Rico was less and less home and yet Baltimore was only a transition"; though she dreams of returning to the Island, she feels that it simply does not offer career opportunities. The same thought was echoed by the botanist, who believes that she and her husband would have problems finding work in Puerto Rico because of the University's emphasis on teaching to the exclusion of research.

Barriers

The experience of being Puerto Rican in a non-Hispanic environment was often negative. One woman who grew up on the Mainland talks of her contact with another student who "hated Puerto Ricans and let me know it." The physician, who took all her schooling in New York City, feels somewhat uncomfortable ("like an outcast") when she leaves the city to attend medical conventions elsewhere, since her specialty is one in which both women and Puerto Ricans are scarce. On the other hand, two of the women who had been raised in Puerto Rico encountered a different form of racism. The biologist, who was enrolled in a small graduate department on a small campus, believes that both faculty and students tended to overcompensate because she was Puerto Rican "and they were afraid to say anything that would be prejudiced or hurt my feelings." Similarly, the biochemist thinks she got special treatment as a Puerto Rican: "I don't think that would have happened if I had studied in New York, where there's a less exotic aura. But in Baltimore, it was nice that I was Puerto Rican."

Sexism was more frequently mentioned as a problem in college and graduate school than racism was. Often, this sexism was direct and explicit. The dentist says that male dental students "saw women only as sex objects. One man told me that women who went into dentistry were all dykes." The botanist quotes a male professor who told her, "Women are only made for going into the kitchen, for bearing children, and for taking care of the family." The biologist's graduate advisor, though personally supportive of her, remarked on one occasion that he couldn't find "a decent woman scientist" in his specialty; she comments, "That's a sweeping statement with few facts to support it."

In other cases, the sexism was more covert. In the classroom, in the laboratory, and on the job, the women frequently felt isolated from their male colleagues. The chemist says that, because she was often excluded from informal social activities, she missed some professional opportunities. The computer scientist, who travels around a lot to stations where she is virtually the only woman, finds that the men do not at first take her seriously: "You have to prove you're good, show them you can do the job."

Almost all the women talked about the traditional Puerto Rican view of the role of women, though it did not always constitute a barrier for them. One says that a major factor in her decision to take advanced study was her refusal to play the submissive role that her parents wished on her: "The only way I could get out of a ghetto-type situation was to get a good education." Another, who attended school in Puerto Rico through college, says:

> I don't know if it occurs for Puerto Ricans who grow up in the United States, but we're very much a traditional society. . . .

> About 90 percent of Puerto Rican males would not tolerate their wife working and being strongly committed to her career. That would be forsaking the family.

Most of the women lived at home while attending college. The physician explains:

> In Hispanic families, at least in my family, women didn't move away from home until they were married. You could get to be 40 and still be at home because you were being protected. . . . I never thought of moving away--What would my father say?

Finances were a problem in several cases. Both the physician and the dentist had to take loans, which they are still paying off. Two women received a Ford Graduate Fellowship, and one a predoctoral traineeship from the National Institutes of Health. Several had research assistantships working with their professors on specific projects. Others held a variety of outside jobs: as salesclerks, telephone operators, teacher aides, library assistants, and so forth. The biologist sums up the situation for many graduate students: "Finances were a big concern for all of us. I never went out to eat at my own expense."

Facilitators

Of special interest are those persons and experiences that facilitated the educational attainment and career development of these seven women. Several mentioned a family member or friend who had served as a role model when they were young. For instance, one talked about an aunt with a master's degree in education, a superwoman with enormous energy who took care of chickens, pigs, and turkeys, as well as her family, and who taught school and attended university classes in addition; her example "gave me the drive, the willingness, to say 'I can do it all.'" Another role model was a family friend, active in the independence movement in Puerto Rico, who had been deserted by her husband; she raised seven children, worked as a seamstress, and made all the family decisions:

"I was influenced by that to make sure I could take care of myself and my family."

High school teachers often gave explicit encouragement or served as examples. The botanist talks about two high school teachers, one "a very stern woman but very knowledgeable" who taught biology and whose enjoyment of science communicated itself to her students, and the other a physics teacher who "introduced the whole class to the scientific way of thinking" and aroused in many of her students a lasting interest in a science career.

At the undergraduate and graduate levels, most of the women had mentors. For instance, the biologist describes a woman professor:

> Although she inspired fear in us, she had a fantastic grasp of almost any science. . . . She was very bright and continually learning. . . . She protected me from anyone who would discourage me [from going to graduate school].

One woman, who was so shy and insecure that at first it seemed doubtful whether she would be able to make the transition from high school to college, attached herself to a "very independent" woman professor: "Nobody could believe this docile person, this little dove, was following her around and following in her footsteps. . . . I really admired her." One woman said she was given encouragement and advice by a black man who was dean of minority affairs; another mentioned a Puerto Rican student, several years ahead of her in graduate school, who gave her "moral support." He was "protective of me and told me what to watch for and what to do and not to do."

Acceptance by male faculty and colleagues was a stimulus for some of these women. The physician says:

> The people I worked with, the residents and interns, were all men, but they treated me as one of the team. They gave me the responsibility and expected me to be up and running around in the middle of the night like them. In no way did they make me

> feel like I was not capable of going into surgery because I was a woman, and I think that was one of the things that may have encouraged me: the fact that they didn't see any limitation, so why should I?

The biochemist tells a particularly touching story about the support and encouragement she received: The summer after her graduation from college in Puerto Rico, she was offered an opportunity to go to Woods Hole (Massachusetts) for a special summer seminar. Though Woods Hole agreed to pay her tuition, and the University of Puerto Rico paid her air fare, she was still short $200 needed to cover her living expenses. So her fellow graduate students held a week-long hotdog sale to raise the money for her. Her experience at the seminar was valuable as well:

> It introduced me to how the American student was--how different, but how good they could be anyway. They all realized I was scared. Even the people from California with long hair turned out to be very human, and that was a good thing for me to learn.

Summary

The seven women discussed here all give evidence of being exceptionally competent and highly motivated. In reading the interview material, one is struck by their determination to achieve the goals they had set for themselves and by their dedication to their careers. Virtually all of them seem to enjoy their jobs. Being involved in nationally significant activities (such as the NASA space shuttle program), being part of a team, having autonomy on the job, and being "captain of the ship" are all mentioned as sources of satisfaction. The married women say that their husbands support their career goals and share in housekeeping tasks. The most common complaint seems to be that they do not have the time to pursue their own research interests.

Despite their remarkable personal qualities, most of the woment appeared to feel that an element of luck had entered into their achievement.

The following comment about minority students in general illustrates this attitude:

> I think [they] have this idea that no matter how good you are, your preparation isn't good enough to compete. So rather than meet the challenge, you go the easy way. For me, it was the key people at the right times saying "You can." . . . I had good grades and I knew I was intelligent, so you can imagine people who aren't as sure of their abilities. They won't even consider [higher education and advanced study].

CHAPTER 10

SUMMARY AND RECOMMENDATIONS

The major findings about Puerto Ricans to emerge from this study of the status of minorities in higher education may be summarized as follows:

The Puerto Rican Population in the Continential United States

- Puerto Ricans constitute an estimated 15 percent of the Hispanic population in the continential United States (or 1.8 million of 12 million), while the population on the Island numbers about 3.2 million. Those on the Mainland are concentrated chiefly in the urban areas of the Northeast, with about half living in New York City.
- Puerto Ricans are the youngest of the Hispanic subgroups (with a median age of 20 years in 1978) and have slightly larger-than-average families (mean of 3.8 persons in 1978).
- The number of Puerto Ricans living in the continential U.S. has just about doubled every decade since 1950, making them "the fastest growing component of the 'minority' with the highest growth potential" (Bonilla and Campos, 1981, p. 155).
- By all socioeconomic indicators, Puerto Ricans are more severely disadvantaged than virtually any other racial/ethnic group in the U.S. For instance, their labor force participation and employment rates are lower than those of all Hispanics and of the total population, while their unemployment rates are higher.

- Employed Puerto Ricans tend to work in low-status, low-paying occupations. They are disproportionately represented in unskilled blue-collar jobs (nonfarm operative) and in service occupations. Only one-third (compared with half of the total population) are employed in white-collar jobs.
- The median family income of Puerto Ricans is lower than that of any other racial/ethnic group. A larger proportion lived below the poverty level in 1977 than in 1969.

Puerto Ricans Students in Mainland Institutions

- Puerto Rican students enrolled in U.S. higher education institutions constitute two distinct subgroups: those who were raised and attended schools on the Mainland, and those who were raised and attended schools on the Island and who come to the Mainland for the express purpose of getting postsecondary education. The latter account for an estimated 10 percent of Puerto Rican enrollments in Mainland institutions.
- The two subgroups differ in their socioeconomic backgrounds and their educational preparation. Those who travel from the Island for their college education tend to be graduates of Puerto Rico's private high schools, to have well-educated parents with relatively high incomes, to have earned higher grades and held higher ranks in high school than their Mainland counterparts, and to aim for an advanced degree.
- Failure to take into account the considerable differences between these two subgroups of Puerto Rican college students leads to underestimation of the disadvantagement which characterizes many of the Puerto Ricans who were raised and attended school chiefly on the Mainland.

Educational Pipeline

o At each higher level of the U.S. educational system, the underrepresentation of Puerto Ricans, relative to their proportion in the population, becomes more severe.

o According to the best available data, close to half of all Puerto Ricans on the Mainland never complete high school, but the actual figure may be much higher. Because of the movement of Puerto Ricans both to and from the Island and within the continential United States--and the consequent movement of Puerto Rican children from one school system to another or from one school to another within the same urban school system--record-keeping on Puerto Ricans in the lower schools is inadequate.

o The transition between high school graduation and college entry does not seem to be a major leakage point for Puerto Ricans. Of those who graduate from high school, about half enter college. However, this figure may be inflated because it is based on data from the years when the City University of New York operated an open-admissions policy whereby all graduates of New York City's high schools were eligible for admission to a CUNY college.

o Puerto Ricans are more likely to drop out of college before receiving the baccalaureate than are Whites or Blacks. In addition, because many of them take noncredit remedial courses, work while in college, and attend on a part-time basis, they usually take longer than the traditional four years to graduate.

o Although separate figures for Puerto Ricans are not available, data on Hispanics show that about one-third of baccalaureate-recipients enroll in graduate or professional school. However, fewer than half who enter advanced training complete the degree.

- At the freshman level, Puerto Ricans are more likely than are Chicanos or Whites to name social science as their probable major field of study but less likely to name allied health or business. At virtually all degree levels, Hispanics are overrepresented in education, social science, and arts and humanities, but severely underrepresented in the natural sciences.
- Puerto Ricans, along with other disadvantaged minorities, have made some gains over the last two decades with respect to representation in higher education. Since the mid-1970s, however, their enrollments have stabilized, and little further progress has been made.

Freshman Trends

- Data on freshmen participating in the Cooperative Institutional Research Program in 1971, 1975, and 1979 indicate that, over the decade, the socioeconomic condition of Puerto Ricans entering the nation's colleges improved very little, relative to that of the total freshman sample. In terms of parental income and education, Puerto Ricans remain heavily disadvantaged.
- Grade inflation in high school did not operate to the same extent among Puerto Ricans as among the total freshman population.
- As was true among all freshmen, the degree aspirations of Puerto Rican freshmen rose over the decade; that is, a larger proportion in 1979 than in 1971 aimed at an advanced degree. This increase was especially evident among Puerto Rican women.
- Business, engineering, and allied health become more popular as probably majors among Puerto Ricans, whereas education, arts and

humanities, and social science declined in popularity between 1970 and 1979. The career choices of businessperson, engineer, medical professional, and nurse became more popular among Puerto Rican women, whereas the career choices of lawyer and allied health professional became more popular among men.

- The proportions of Puerto Rican freshmen expecting to get married while in college and to have to work at an outside job decreased over the decade but in 1979 were still considerably higher than the proportions for all freshmen. Concern over ability to pay for college was greatest in 1975.
- A slight shift toward greater conservatism was evident among Puerto Rican freshmen, as among freshmen-in-general, except on the question of equal employment opportunities for women. Puerto Rican freshmen, like freshmen-in-general, also became more materialistic over the decade, in that the proportions giving high priority to the goal of being financially very well-off increased substantially.

Factors Influencing Educational Development

- Puerto Ricans who rated themselves high on academic ability tended to do well in college, as did those who came from relatively affluent backgrounds and whose parents held high-status jobs. Outstanding performance in high school also predicted desirable outcomes. The freshman expectation of having to work at an outside job and concern over ability to pay for a college education were negatively related to persistence.
- Puerto Ricans had a better chance of completing the baccalaureate if they enrolled in a private university or four-year college than if

they enrolled in a public four-year or two-year college. The unfavorable impact of community colleges has been widely documented; the unfavorable impact of public four-year colleges is probably explained by the heavy concentration of Puerto Rican undergraduates in the four-year colleges of the CUNY system and in other four-year colleges in the Northeast that resemble community colleges: large, urban, commuter institutions that offer few opportunities for involvement in campus life.

- As was true for other minority students, Puerto Ricans generally did better if they initially entered a high-quality institution; that is, a selective, prestigious, high-cost institution where per-student expenditures for educational and general purposes were high and the student-faculty ratio was low.

Views and Experiences of Puerto Rican Professionals

- Receiving support and encouragement from their parents and other family members was frequently mentioned by Puerto Rican professionals as of primary importance in their decision to attend college and in their high attainment.
- Puerto Ricans frequently encountered severe financial problems as they pursued undergraduate and advanced education. Receiving financial aid was often crucial to their being able to remain in school and (in the case of recipients of Ford Graduate Fellowships) to attend their first-choice institutions.
- Closely connected with financial concerns was the need to work at an outside job while attending college or graduate school, though

this was less true for Puerto Rican Ford Fellows who had graduated from Island colleges than for any other group of Ford Fellows.

- Puerto Rican academic personnel saw poor preparation in the lower schools as the major obstacle to pursuit of a higher education for most young Puerto Ricans. In addition, Puerto Rican professionals were highly critical of the educational and career guidance and counseling they had received, especially at the high school level.
- Puerto Rican faculty members and other academic staff felt that they faced some problems not generally encountered by their Anglo counterparts, such as being sterotyped as the "minority" expert. Puerto Rican Ford Fellows complained of the highly competitive atmosphere of their graduate departments.
- Puerto Rican women with high aspirations seem to face some special problems because of the demands imposed upon them by the multiple roles they play and because of the cultural emphasis on dependence and passivity as appropriate qualities for women.

On the basis of these and other findings to emerge from the study, the Commission formulated a number of recommendations. Those recommendations that have particular application to Puerto Ricans are abstracted from the Commission report (1982) and presented below.

Data Collection and Reporting

- All federal, state, and other agencies concerned with collecting and reporting data on minorities should replace the "Hispanic" category with specific categories separately identifying Chicanos, Puerto Ricans, and possibly other Hispanic groups.

- Wherever possible, data on Puerto Ricans residing in the United States should be reported independently of data on those whose homes are in Puerto Rico.
- All sample surveys should strive to oversample minorities, especially the smaller groups (e.g., Chicanos, Puerto Ricans, American Indians).
- The U.S. Bureau of the Census should hire and train more minority censustakers and researchers to develop and administer questionnaires and to analyze and interpret the results of Census Bureau surveys.
- The officials responsible for public education in each state should institute a comprehensive data system for tracking and monitoring the flows of minority and nonminority students from elementary school through high school and beyond, into the community colleges, baccalaureate-granting institutions, and graduate institutions in the state.

Precollegiate Education

- School counselors and teachers should make special efforts to assist Puerto Rican and other minority students in understanding the relationship between their education and their future careers and other life options and should encourage these students to enroll in college preparatory curricula and to take courses in mathematics, languages, natural science, and social science.
- Schools should routinely test new and continuing students as a basis for undertaking any remedial efforts that may be required to correct for the effects of earlier educational deficiencies.

Secondary school teachers and administrators, working in close collaboration with faculty from nearby colleges and universiti[illegible], should define those intellectual competencies that are crucial to effective performance in college and develop tests to measure such competencies.

- Such tests should be administered on a repeated "before" and "after" basis to assess student progress and program effectiveness, in accordance with the "value-added" model (see below).
- The results of such periodic testing and retesting should be a major element in the accountability of school teachers and administrators; those who are demonstrably effective in assisting minority students should be more adequately compensated.
- The school leadership should make greater efforts to ascertain and respond to the concerns of minority parents, to involve them in the operation of the schools, and to assist them in understanding the objectives, procedures, and practices of the schools.
- The per-student formula now used to allocate resources among public elementary and secondary schools within a school district should be revised so that predominantly minority schools receive a greater share of these resources, some of which should be used to develop rigorous academic programs and associated support services for their students.
- Higher education institutions, schools, and departments concerned with the training of elementary and secondary school teachers should develop stronger academic programs designed, among other things, to increase the prospective teacher's awareness of and sensitivity to minority cultures and values.

Implementation of the "Value-Added" Model

- Educational institutions should revise their testing and grading procedures to reflect and enhance the "value-added" mission. Such a revision requires, first, that current normative or relativistic measures be replaced by measures that assess the learning and growth of the individual student and second, that these measures be administered periodically to assess the individual's growth over time. Results from both local and national tests should be routinely fed back to individual students and teachers on an item-by-item basis. Such revised testing and grading procedures will better serve the educational process by providing students, teachers, institutions, and policymakers with feedback on the nature and extent of student learning and growth over time. This feedback will be useful not only in evaluating the effectiveness of educational programs but also in diagnosing the educational progress and needs of individual students.
- Educational institutions should use standardized tests for course placement, evaluation, and counseling rather than just for the selection and screening of students.
- Educational institutions should enlarge their concept of competency meausres to include the assessment of growth in the noncognitive realm: personal development, interpersonal skills, and self-esteem.

Academic and Personal Support Services

- Colleges and universities should strengthen their efforts to help underprepared minority students improve their study habits and develop their basic skills by offering tutoring and academic counseling. Such efforts will not only benefit the individual student but will also help institutions financially by reducing student attrition rates.

- Colleges and universities should provide resources to establish centers where minority students can meet together for social and educational exchanges. Such centers can promote a sense of community, can help new students learn about the system, and can foster cultural identity, pride, and strength in such a way that minority students will be able to challenge as well as to enrich and broaden the traditional values of the institution.
- Minority students themselves, as well as local minority communities, should be used as a resource in providing leadership and initiatives for the organization of such academic and personal support services and should be given a responsible role in decisions concerning their operation and management.
- Trustees, administrators, and faculties of colleges and universities should give strong and visible support for the development of ethnic studies programs, in whatever form, so that the perspectives added by such programs will be available for the benefit of all students, minority and majority.

Financial Aid

- Whenever possible, students with significant financial need should be given aid in the form of grants rather than loans.
- Students should be given enough aid so that they do not need to work more than half time.
- If students are given financial aid in the form of work-study support, it should be packaged in such a way that they work less than half time and, whenever possible, at on-campus jobs.

- Federal and state legislators and policymakers should support expanded grant and work-study programs.

Bilingualism

- Federal and state policymakers should examine the goals and outcomes associated with current bilingual education policy and practice, recognizing that no child should be forced to choose between educational opportunity and cultural identity.
- The historical and juridical facts supporting group claims to language rights and cultural continuity should be kept clearly in view, along with pedagogical considerations. The rights of minorities to establish language and cultural objectives for themselves should be recognized in public policy, and processes should be fostered through which informed and responsible decisions about language and education can be made by the communities concerned.
- Colleges and universities should more actively promote the broad-gauged, interdisciplinary, and historically grounded research necessary to inform a more rational, efficacious, and humane national policy concerning language and education.
- Elementary and secondary schools should provide the instructional services and resources necessary to maintain and develop the language skills of children who enter school speaking Spanish or an Indian language if these students or their parents request such services. This recommendation in no way relieves the schools of their responsibility for providing these students with a full command of English.
- Researchers should seek to identify the instructional methods, materials, and programs, at both the precollegiate and postsecondary levels, that

contribute to student performance in school and promote the development of bilingual skills.

- Researchers should seek to identify the barriers faced by college students whose command of English is limited as a result of poor instruction in the elementary and secondary schools or of recent migration to this country and to explore ways in which the educational achievement of these students can be facilitated.
- Postsecondary educators should recognize their responsibility for and commit themselves to furthering the development of bilingual skills among college students and, through their role as teacher trainers, among students at the elementary and secondary levels.
- Colleges and universities should acknowledge and utilize the linguistic talents of bilingual students by providing them with opportunities to work part time on community liaison and on student recruitment and orientation programs, by employing upper-division or graduate students to provide academic tutoring and personal counseling for new bilingual students who need such services, and by hiring students as tutors and teaching assistants in foreign language courses and as research assistants on projects concerned with studying language-related issues or with collecting data within bilingual communities. These kinds of opportunities benefit students by enhancing their involvement in the college experience and by providing them with on-campus employment that is likely to be of greater interest and value to them than many other work-study jobs, as well as benefiting the institution.

Graduate and Professional Education

- Federal, state, and institutional policymakers should increase financial aid for minority students at the graduate and professional levels. In particular, every effort should be made to expand the number of assistantships available to minority graduate students, since this form of aid seems to intensify student involvement in graduate study, promote professional development, and strengthen the bond between student and faculty mentor.
- Federal, state, and private agencies should consider implementing challenge grant programs, since such programs seem likely to increase the amount of financial aid available for minority graduate students as well as to strengthen institutional commitment to the goal of increasing minority enrollments.
- Graduate faculties should be more sensitive and responsive to the need of minority graduate students to have more freedom and support in selecting research topics, choosing methodologies, analyzing data, and interpreting results, consistent with graduate standards.
- Graduate and professional schools should make special efforts to increase their pools of minority graduate students and the presence of minorities on their faculties.
- Federal and state policymakers should give increased attention to the nation's long-term needs for highly skilled academic, research, and technical workers. We believe that recent cuts in funding for advanced-training programs, based on actual or presumed short-term surpluses of personnel in certain fields, are short-sighted and that they disproportionately and unfairly reduce the opportunities of emerging minority scholars to contribute to the general good.

Minority Faculty and Administrators

- Colleges and universities should seek to recruit and hire more minority faculty members, administrators, and student services personnel and should make every effort to promote and tenure minority educators.
- Top administrators must demonstrate their clear and unequivocal support of efforts to recruit, hire, promote, and tenure minorities. In many respects, the administration establishes the campus atmosphere or "tone." Thus, a visible personal commitment to change on the part of one or two senior officials can be critical in effecting increased minority representation on a campus.
- Colleges and universities should make every effort to ensure that minority faculty members, administrators, and student personnel workers are represented in all types of positions at all levels within the institution. An unfortunate side-effect to provide better services to minority students has been the creation of positions that are perceived and labeled as "minority" positions; often, minority staff are hired for part-time, short-term nontenure-track jobs that are supported by "soft" funds from outside the institution's line-item budget. Because they are isolated from the institutional mainstream, the incumbents of such jobs have little opportunity to influence institutional policies and practices, limited interaction with majority students, and few prospects for advancement.
- Colleges and universities should revise their hiring and promotion criteria so as to recognize and reward a wider variety of accomplishments and types of service. Continued adherence to narrowly defined

criteria tends to penalize minority staff members who, in trying to fulfill the multiple roles demanded of them, often have little time and energy left to devote to scholarly research and other traditional functions. Institutions that emphasize scholarly activity as a major criterion for promotion should consider establishing a junior faculty research leave program for those young faculty members who have taken on special advising and counseling duties.

- State legislatures and state boards should support administrative internship programs (such as the current state-funded program in the University of California and California State College and University System) to develop and promote minority and women administrators in public colleges and universities.

Minority Women

- Colleges and universities should provide couseling services and personal support groups to assist minority women in overcoming the barriers that result from double standards and sex-role sterotypes.
- Colleges and universities should provide science and mathematics clinics and special courses to help minority women make up for deficiencies in preparation in these subjects, so that they will be able to consider a wider range of careers. These efforts should be additional to particular interventions at the precollege level.
- Institutions should hire and promote more minority women as faculty, administrators, and staff.
- Institutions should provide child care services on campus.

- Institutions should make an effort to involve those minority women who live at home more fully in campus life: for example, by providing dormitory space or other facilities where these women can spend time interacting with other students.

Government Programs

- The federal government should continue to play a leadership role in emphasizing access to higher education for all segments of society. In particular, federal programs in the areas of student aid, institutional support, and special interventions deserve continued support.
- State and local policymakers, planners, and educators should devote more attention to the factors that impede full minority participation in higher education. Federal funding should supplement, not supplant, state and local efforts to support a range of programs and interventions responsive to the needs of minority students.

Appendix

Survey of Minority Academic Personnel

This survey used a modified delphi approach to tap the experiences and insights of minority faculty members, administrators, and other academic staff members. Five steps were involved: identification of the sample, mailing of the first questionnaire, analysis and codification of responses, mailing of the second questionnaire, and analysis of responses.

The project staff established as its sampling goal the identification of approximately 150 faculty members, administrators, and other academic personnel from each of the four minority groups under study: a total of 600 individuals. In selecting the Puerto Rican sample, two main sources were used: a list of participants in the First New Jersey Statewide Conference on Hispanics in Higher Education, held in December 1978; and a list of Puerto Rican faculty and staff employed by the City University of New York (CUNY). In addition, project staff suggested 21 names. In this way a roster of 150 names was compiled. Subsequently, however, some of the people whose names appeared on this roster had to be dropped from the sample for one of three reasons: (1) they were not Puerto Rican; (2) they were employed in clerical or secretarial jobs or in middle-management positions that gave them little contact with students and faculty and little voice in institutional policy; or (3) their questionnaire forms were returned as nondeliverable, and no current address could be found for them. Thus, the pool of potential respondents was reduced to 121 persons.

The first questionnaire, developed by the project staff and revised in accordance with suggestions from two of the Commissioners, was open-ended in format, the intention being to encourage respondents to write freely and at length of each of the items. The areas covered were their past experiences as undergraduates and as graduate or professional-school students and their current experiences as academic staff members, their opinions as to the biggest obstacles facing young men and women of their racial/ethnic background and the biggest problems at each level of education from elementary school through advanced study, their views of the strengths of young people of their racial/ethnic background, and their suggestions about what higher education institutions might do to better serve minority college students. They were also invited to make additional comments and asked to provide demographic and related data on themselves. Fifty-five Puerto Ricans from the sample of 121 returned this questionnaire, for a response rate of 45 percent, which was lower than that for Chicanos (76 percent) and American Indians (63 percent) but higher than that for Blacks (32 percent).

The project staff compiled and categorized responses to this open-ended instrument, producing comprehensive lists of responses to each item. Following a careful review of these lists, response options were reworded, collapsed, or deleted. The result was a second questionnaire in an "objective," forced-choice format that was easy to complete and score while at the same time offering meaningful alternatives. The same areas were covered as on the first questionnaire. For each item, the respondent was asked to "choose up to but no more than three responses . . . and indicate their order of importance by marking '1' (most important), '2,' and '3.'"

The second questionnaire was mailed out in the fall of 1980 to the full sample (both respondents and nonrespondents to the first questionnaire). Of the 121 Puerto Ricans on the list, 58 returned usable forms, for a response rate of 48 percent, which is slightly lower than that for Blacks (50 percent) and much lower than that for Chicanos (69 percent) and American Indians

(58 percent). Responses to the second questionnaire were tabulated for each minority group and for the total sample of 311 minority academic personnel who returned completed forms.

Patricia P. McNamara was the project staff member in charge of this survey.

Survey of Ford Graduate Fellows

During the 1960s, a number of public and private agencies initiated programs designed to increase minority participation in higher education, including advanced study. One of the largest of these efforts was the Ford Foundation's Graduate Fellowship Program. Since 1969, 1,650 minority graduate students have received awards under this program.

To learn more about the backgrounds, characteristics, and education and occupational experiences of this select group, the project staff mailed out questionnaires to 1,350 Ford Fellows in the summer of 1980. Four hundred and seventy-one were returned as nondeliverable, leaving 879 potential respondents. A total of 630 Ford Fellows completed the questionnaire, for a response rate of 71.7 percent. Of these, 125 were Puerto Rican, 49 of whom had attended Mainland institutions for their undergraduate education and 76 of whom had graduated from higher education institutions on the Island.

Kenneth C. Green was the project staff member in charge of this survey.

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